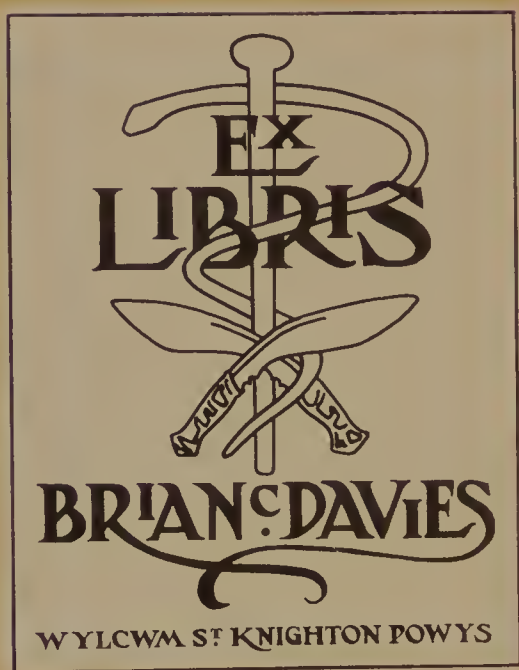




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P R I N C I P L E S

O F

M I D W I F E R Y,

O R

P U E R P E R A L M E D I C I N E.

B Y

J O H N A I T K E N, M. D.

FELLOW OF THE ROYAL COLLEGE OF SURGEONS, MEMBER OF
THE ROYAL MEDICAL SOCIETY, A SURGEON OF THE ROYAL
INFIRMARY, &c. AND LECTURER ON ANATOMY, SURGERY,
AND MIDWIFERY, IN EDINBURGH.

To me be Nature's volume broad display'd,
And to peruse her all-instructive page,
My sole delight.

THOMSON.

E D I N B U R G H :

Sold at the *Edinburgh Lying-in Hospital*, for the Benefit of
that Charity.

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D. S. Duncan

from

Miss Mary Anne J. S.

Rich. Anthony

THE AUTHOR TO HIS PUPILS.

GENTLEMEN,

I Have the honour to present to you these *Principles of Midwifery*. They exhibit, in comparatively a small compass, a more extensive view of our Art than is to be found in any similar publication in this country, I am acquainted with. I despair not to make them more worthy of your attention, in consequence of increasing experience, of more mature reflection, and, above all, of your friendly communications, which to me are ever most acceptable. Mean time, I am not much alarmed with respect to the result of an impartial comparison with works of the same kind.

In Midwifery, as well as in every part of Medicine, I have invariably aimed at *improvement*; the particular attempts I leave to your recollection*; how far I may have succeeded, you must determine.

I deem no circumstance in my life more flattering and honourable than your Patronage, whether I consider your
numbers,

* List of Inventions and Improvements.

numbers, or your progress in every branch of science. Not to be ambitious to retain, and even to enhance your friendly sentiments, would be a conduct mean and unworthy. Be assured, therefore, the possession of your favour is a darling object, which I will unrelentingly pursue by every fair, liberal, and manly exertion. I am not easily dismayed by opposition, when conscious of the solidity of my cause.

It would be acting directly contrary to my feelings, and to the eternal laws of gratitude, did I not cheerfully embrace this occasion most sincerely to thank you, "O ET PRÆSIDIUM ET DULCE
" DECUS MEUM!" for your splendid and generous support; the deep impression it has made, the hand of death can alone erase from the heart of,

GENTLEMEN,

Your most devoted and faithful

friend and servant,

EDINBURGH,
Anatomical Theatre,
April 1784.

JOHN AITKEN,

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P R I N C I P L E S

O F

M I D W I F E R Y.

Introduction.

THE object of *obstetrical Medicine* or *Midwifery*, viewed in its utmost extent, is duly to promote and facilitate *Parturition*; or to afford requisite assistance during the *Puerperal State*.

A just and rational exercise of this Art, can only be founded in a very accurate knowledge of the *Structure*, *Functions*, and *Diseases* of the parts of the mother and child, as far at least as these may be more immediately interested in *Parturition*: Hence, *Puerperal Anatomy*, *Physiology*, and *Pathology*.

PUERPERAL ANATOMY.

Puerperal Anatomy respects,

- | | |
|----------------|----------|
| 1. The Osseous | } Parts. |
| 2. The Soft | |

The osseous parts, are those pieces of bone which complete the inferior termination of the trunk of the skeleton, called *Bones of the Pelvis*, or *Basin*.

The soft parts, are principally the *genital* or *uterine system*, and such organs as become interested from proximity.

The Bones of the PELVIS.

The Pelvis is the bottom portion of the abdomen, or lower belly ; consequently, a cavity formed below, and somewhat before the spine or back-bone, and above the inferior extremities.

The osseous parts inclosing the Pelvis, resemble an irregular large ring, which in the adult consists of four pieces. Two, placed one above the other, form its back part,—*os sacrum*, (sacred bone), and *os coccygis*, (rump-bone). The two *ossa innominata*, (nameless bones), complete the inclosure at the sides and forepart : Their posterior ends are supported by the edges of the *os sacrum*, and their anterior ones are joined together.

Os sacrum, viewed from before or behind, is triangular ; the most acute angle is lowest, blunted and articular, to admit of connection with the *os coccygis*. The side opposite to this angle is highest at its middle articular portion, which joins with the spine ; it projects considerably into the Pelvis, and is named *promontory* *. The other sides are partly articular, to form their

* PLEENCK's Elem. Art. Obst.

their connection with the *ossa innominata*. The anterior surface, in which are ordinarily five pairs of holes, being considerably hollowed, is termed *concavity*. A large triangular-like hole runs from behind the articular surface, on the upper side of this bone, nearly through its whole length, with which the holes in the anterior surface communicate; as do smaller ones on its posterior convex, and rough surface.

Os coccygis is a miniature representation of the *os sacrum*, the holes excepted: The side opposite to its most acute angle, is connected to the *os sacrum*, so as seemingly to augment the concavity of that bone.

The general Anatomist describes both these bones as parts of the spine, under the denomination of false vertebræ, alluding to the pieces of which they are composed in the young subject*.

Ossa innominata, each, during early life, had plainly consisted of three pieces, which, before puberty, suffer complete concretion; these pieces have proper names, the uppermost *os ilium*, (haunch-bone); the undermost *os ischii*, (hip-bone, seat-bone); the foremost *os pubis*, (thare-bone). The junction of these is marked on the external surface by a cup-like cavity, called *acetabulum*, which receives the head of the correspondent thigh-bone.

Os ilium, its most remarkable parts are, its circular edge, called *crest* and *spine*, which forms the contour of the *haunch*; the anterior extremity of this, and a *protuberance* about an inch and half below it, are termed *superior* and *inferior spinous processes*: A *prominent line*, stretching from the point corresponding to the upper side of the *os sacrum*, to the contiguous *os pubis*,

* WINSLOW'S Exposition Anatomique.

pubis, named *linea innominata* * : This is part of the boundary of the Pelvis, called its *brim* : The hollow surface included betwixt it and the crest, which of course is no part of the Pelvis, is named *fossa iliaca* † : its posterior *articular surface*, calculated for being joined with the edge of the os sacrum : And a *semicircular notch*, behind which, with the adjacent edge of the os sacrum, and a ligament, is formed into a *large hole*, named *sacro-ischiatic*.

Os ischii, its inferior part, on which the body rests in the sitting attitude, is called *tuberosity*, (tuber ischii); on the back part, about two inches above the inferior point of the tuberosity, is a sharp process, named *spine*, inclining to the adjacent edge of the os sacrum, and approaching nearer to its fellow than does the one tuberosity to the other. From the anterior part of the tuberosity originates a process, named *ramus*, (branch), about an inch and half in length, which unites with a similar one sent down from os pubis, forming a curvature or notch, which constitutes about half of the circumference of a *large oval-like hole*, called *thyroid*, (foramen thyroideum, vel ovulare), which is turned somewhat forward and downward ‡.

Os pubis has, on the edge of its cavity, which respects its fellow, an *articular surface*, to favour their cohesion. The superior edge is turned like a lip a little forward and downward, and is called *crest*. A *strong process*, which connects it to the os ilium, carries the continuation of the *linea innominata*, and is consequently *the boundary* of the Pelvis at this part. A *slender and short* process, named *ramus*, is directed downwards and backwards

* PLENCK's Elem. Art. Obst.

† BOUDELOQUE's Art des Accouchmens.

‡ PLENCK's Elem. Art. Hist.

wards to the extremity of the ramus of the os ischii; its concave margin is the upper half of the circumference of the thyroid hole. This ramus meets with its fellow, so as to form the *angle* or *arch of the pubes*, in the upper point of which is lodged the *urethra*, issuing from the *bladder of urine*, which is well supported upon the conjoined smooth interior surfaces of the ossa pubis, turned obliquely upwards.

Connection and Ligaments of the Bones of the Pelvis.

The ossa innominata are connected by their posterior ends, immoveably to the os sacrum, by the interposition of a cartilage-like substance of considerable thickness: A mode of articulation, called *symphyxis* and *synchondrosis*; this, of course, is termed *sacro-iliac*, or *posterior symphyxis*, to distinguish it from that which connects their anterior extremities, named *anterior symphyxis* and *symphyxis pubis*, in which a particular disposition of the connecting matter has been described *. No relative motion is permitted, notwithstanding contrary assertions †. The connection of the os coccygis and sacrum is such, as to permit a degree of forward and backward motion, to the inferior extremity of the former, by which the concavity of the Pelvis behind, is proportionally encreased and diminished, and the inferior opening or bottom somewhat varied.

The *ligaments* in general, are perhaps productions of the *periosteum*, a dense membrane investing the bones. A ligament on each side, named *sacro-iliac*,
and

* London Med. Obs. and Inquiries, vol. ii. p. 333.

† DUVERNEY'S Anatom. CAMPER'S Demonstrat. Anat. Pathol.

and *lateral**, is extended from the upper edge of the os sacrum, to corresponding points of the ossa ilia: Below, from each side of the os sacrum, *two ligaments*, under the name of *sacro-ischiatic*, are stretched, the one named *anterior*, to the spine of the os ischii; and the other, largest and strongest, called *posterior*, to its tuberosity, constituting a *hole* between their extremities, the spine, and tuberosity, while their superior edge completes the sacro-ischiatic hole, as already described. Each thyroid hole is nearly closed by a ligament, named, on this account, *oblurator*. Ligamentous fibres are variously stretched across the symphysis pubis, so as to strengthen this connection. A portion of a tendon, improperly named *Paupart's* or *Fallopian's ligament*, is extended on each side, between the superior spinous process of the os ilium, and crest of the os pubis, by which a large space is inclosed, as if by an arc and its chord: Through it the vessels, nerves, &c. are transmitted, to and from the leg, and femoral hernia, or rupture, is formed.

Form and Dimensions of the Pelvis.

No part of Puerperal Anatomy is more interesting, than a precise acquaintance with the *form* and *dimensions* of the Pelvis in every point; because on the relation as to form and size existing betwixt it and the child's body, particularly the head, depends in a great degree the progress of Parturition.

The form of the Pelvis, which justly may be considered as a great passage or hole, inclosed principally by the irregular zone or circle of bones already described, is *altogether peculiar*.

The

* SIMMON'S Anatomy of the Human Body.

The points of the bones, which bound its superior orifice, are called its *brim*; and those circumscribing its inferior aperture, are named its *bottom*.

The brim or superior bounding line is formed by the upper edge of the *os sacrum*, and the *lineæ innominatæ*. The margin of its bottom irregularly waved and serpentine, is jointly produced by the *rami* or arch of the *ossa pubis*; the *ossa ischiorum*; the *sacro-ischiatic ligaments*; and *os coccygis*.

The brim of the Pelvis approaches somewhat to an *oval* or *elliptic figure*; its longest dimension placed transversely betwixt the *ossa ilia*. This figure is chiefly the effect of the projection of the promontory of the *os sacrum* into the Pelvis: It otherwise inclines a great deal to the *circular form*; the *middle space* or *cavity* of the Pelvis is *nearly circular* of course; its *inferior orifice* or *bottom*, considered as bounded by these points of its serpentine margin, which approach the most to one another, is likewise *nearly circular*. Those points are on the *back* and *fore parts* the *extremity of the os coccygis*, and *symphysis pubis*, on the *sides* the *spines of the ossa ischiorum*; the *tuberosities*, and a considerable share of the *ossa ischiorum*, are really beneath the bottom of the Pelvis, thus considered.

A line passing through the centre of the Pelvis, making an obtuse angle in a forward direction, cutting a line in the axis of the body, in a point equidistant from the promontory of the *os sacrum* and *symphysis pubis*, forming with it an inward angle of about 23 degrees, may be regarded as the *axis of the Pelvis*. Extended downwards, it passes considerably more forwards than the extremity of the *os coccygis*; protracted upwards, it pervades the abdominal surface
about

about the *umbilicus*; and during advanced pregnancy, the point of transmission is considerably higher. This axis is the *path* of the child's head.

The hand, or surgical instrument, introduced into the Pelvis, ought to coincide with its axis, which is nearly the axis of the uterus.

When the body is reclined to a middle degree between the standing and sitting attitudes, the *brim* of the Pelvis becomes nearly *horizontal*, and the *protracted superior extremity of the axis, perpendicular*.

The *direct* or *conjugate diameter*, (diameter recta vel conjugata), is extended betwixt the promontory of the os sacrum, and the symphysis pubis. The *transverse diameter* (diameter transversalis), crosses this at right angles, and is bounded by the lineæ innominatæ, the former commonly named *short*, the other *long* diameter of the brim of the Pelvis. The *oblique diameter*, (diameter obliqua), is stretched from the posterior symphysis, nearly to the junction of the os ilium and os pubis, of the opposite part of the brim. This is frequently stiled its *diagonal* *.

The *depth* of the Pelvis is greatest at its back part, and least at its fore part.

The distance of the opposite and lowest points of the tuberosities of the ossa ischiorum from each other, is as the angle at the symphysis, because it is subtended by that angle.

It is by no means sufficient to a just and scientific practice of midwifery, to acquire *general ideas* respecting the form and dimensions of the Pelvis, a precise mensuration must be instituted.

Dr

* PLENCK's Elem. Art. Obst.

Dr SMELLIE describes the capacities of the Pelvis to be as follow: He has been copied by many subsequent Authors.

Brim.

Long diameter,	-	5 $\frac{1}{4}$ inches.
Short,	-	4 $\frac{3}{4}$ —.

Bottom.

Coccyx from symph. pubis, distant	5 inches.
Tuber ischii from tuber ischii, distant	4 $\frac{1}{2}$ —.

Depth.

At the back part,	-	5 inches or more.
At the sides,	-	4 —.
At the fore part,	-	2 —.

Dr STEIN ascribes to the Pelvis these dimensions, calculated to the *Parisian* inch * :

Brim.

Conjugate diameter,	-	4 inches.
Transverse,	-	5 —.
Oblique,	-	4 $\frac{1}{4}$ —.

Bottom.

The Conjugate diameter, when the inferior extremity of the os coccygis is nearly an inch pushed backwards, amounts to 5 inches.

M. BAUDELOCQUE imputes to the Pelvis, the following dimensions † :

Brim.

Short or small diameter,	-	4 inches.
Long or great,	-	5 —.

B

Bottom.

* PLENCK's Elem. Art. Obst. p. 14.

† L' Art des Accouchmens, vol. I.

Bottom.

Conjugate diameter, - 4 inches.

Transverse ——— - 4 ———.

This last is sometimes a little more.

Depth.

Behind, - 5 inches.

Sides, - $3\frac{1}{2}$ ———.

Fore part, - 18 lines.

Angle or Arch.

At the symphysis, 15 to 20 lines : Its limbs distant from each other, somewhat more than 3 inches : Its height is about 2 inches.

The mean dimensions of four Pelves accurately ascertained, were :

Brim.

	Inches.	Eighths.
Long Diameter, - - - - -	5	3
Short ——— - - - - -	4	6

Bottom.

Conjugate diameter, - - - - -	3	6
Transverse ——— - - - - -	4	1

Angle or Arch.

Tuber from tuber, fore part, distance	3	4
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Depth.

Behind, - - - - -	4	1
Sides, - - - - -	3	3
Fore part, - - - - -	1	4

The

The *external dimensions* of the Pelvis covered by the soft parts, according to BAUDELOCQUE, are these : from the upper point of the os sacrum, to the lowest end of the os coccygis, the distance is between four and five inches.

Between the spinous process of the last lumbar vertebra, and an opposite point before the symphysis pubis, the distance is from seven to eight inches, the female supposed to be moderately corpulent.

The distance betwixt the anterior superior spinous processes of the ossa ilia, is between eight and nine inches.

A proper plan, upon which to conduct the mensuration of the living Pelvis, as well externally as internally, is a matter of the highest consequence.

The genital System, and contiguous Parts.

The parts of the female genital system, are :

The two *ovaria* or *testes*.

The *Uterus* or *womb*.

The two *tubæ Fallopianæ*, or Fallopian tubes.

The *vagina uteri*, *passage*, or *birth*.

The *os externum uteri*, or *vulva*.

The contiguous organs are :

The *bladder of urine* and *urethra*.

The *intestinum rectum* and *anus*.

The ovaria.

The *ovaria*, placed near the brim of the Pelvis, and extremities of its transverse diameter, one on each side, a good deal resemble the *testes* of the male : They are covered by the *peritoneum*, and tied by ligaments

ments to the angles of the uterus, which is situated between them. Their surface smooth in the young subject ; in the adult, it often exhibits scar-like marks, named *corpora lutea* : Internally, *vesicles* are discoverable among the spongy cellular and vascular substance of which they are composed : Their *vessels*, named *spermatic*, are similar in origin, course and form, to those so named in the male.

The Uterus.

The *uterus*, resembling a *flattened ovoid*, is situated in the middle of the superior part of the Pelvis ; it is considered as made up of *fundus* or *bottom*, *corpus* or *body*, and *cervix* or *neck*. The fundus is uppermost, the flattened surfaces of its body regard the os sacrum and ossa pubis ; its edges or sides coincide with the transverse diameter of the brim of the Pelvis, being turned to the ossa ilia respectively. This cervix is terminated by *two processes*, one before, and one behind, separated by a transverse *chink* or *rima* : These together are named *os tinæ*, and *os internum uteri*, (internal orifice of the uterus). From the middle of the rima, a contracted passage leads to the cavity of the uterus, which is small and triangular ; its extent, from the fore to the back part, is exceedingly limited : The passage through the cervix, which is above an inch in length, leads to the inferior angle of this cavity ; the side which subtends this angle, corresponds to the fundus : Each of the lateral angles are perforated by a *Fallopian tube*. A portion of the fore part of the body of the uterus, its fundus, and the whole of its back part, are covered by the peritonæum : That part of its body and cervix, not covered by the peritonæum,

næum, is in immediate contact with the bladder of urine.

The *substance* of the uterus is of considerable and equable thickness; its cavity is lined by a membrane continuous from that of the os internum.

The uterus is attached to the constituent parts of the Pelvis, and adjacent surfaces, by *ligaments* and *cellular substance*.

The duplicature of the peritonæum stretching from the edges of the uterus, are called *ligamenta lata*, (broad ligaments), they tie it loosely to the sides of the Pelvis, nearly in the direction of the transverse diameter of this cavity.

From the anterior points of the extremities of the fundus uteri, two ligaments, resembling two chords, one on each side, are extended outwards, forwards and downwards, along the brim of the Pelvis, to the *rings* of the abdominal muscles, through which their extremities somewhat emerge: They are named *ligamenta rotunda uteri*, (round ligaments of the womb) *.

The uterus receives its blood by *arteries*, derived from the *hypogastrics*, or *internal iliacs*, between the folds of the peritonæum forming the broad ligaments: It is returned by correspondent veins bearing the same name. The number of their ramifications in the substance of the uterus is very great; the extremities of some of the arteries terminate on the surface of its cavity, and occasionally effuse blood, *the menses*.

Fallopian Tubes.

The Fallopian tubes extend from the lateral angles of the uterine cavity, transversely each in a small fold of the corresponding broad ligament in a waving manner

* DIONIS Chirurgie, p. 291.

manner to the brim of the Pelvis, nearly ; their expanded terminations are directed somewhat backwards, respectively, towards the ovaria : Their orifices are surrounded with a fringe-like substance resembling foliage * ; this is by some called *morfus diaboli*. The uterine extremities of these tubes are of small capacity, and penetrate to its cavity by a winding course : They are situated betwixt the ovaria and ligamenta rotunda.

Vagina Uteri.

The *vagina uteri* is a very distensible capacious tube, five or six inches in length, continuous with the substance of the uterus, and seems to embrace the os uteri internum by its superior extremity, from which it is extended downward and forward, nearly coinciding with the inferior part of the axis of the Pelvis ; and its termination almost equidistant from the angle of the pubes and anus, is termed *os externum uteri*, (external orifice of the womb), which is surrounded by *folds of the integuments* ; the whole of which are *pu-denda* and *vulva*.

The vagina forms a very obtuse angle, by its junction with the uterus, corresponding somewhat to the curvature or angle of the axis of the Pelvis ; a circumstance which makes its posterior part a little longer than its anterior one †.

The vagina is composed of a continuation of the *lining membrane* of the uterine cavity, which clearly appears to be the *cuticle* reflected by the os externum ; and a dense substance, likewise a continuation of the substance of the uterus, and of the *cutis vera* reflected
along

* HALLERI Fasciculi.

† WINSLOW'S Expos. Anat.

along with the cuticle through the external orifice, or rather constituting this orifice.

The interior surface of the vagina in the young or virgin system, is rugose or wrinkled; this circumstance is much altered by child-bearing. It likewise abounds with *glands* secreting a mucous fluid for protection. Glands of this kind, situated within the cervix of the uterus, are named *vesiculæ Nabothi* *.

The anterior surface of the vagina uteri is in close contact with part of the bladder of urine, and the whole of its urethra, which lie betwixt it and the ossa pubis. The posterior surface, from a little below the cervix, is in contact with the *intestinum rectum*.

The *os externum* or *vulva*, begins from the prominence of the integuments, placed upon the ossa pubis, named *mons veneris*, and stretches in the direction of the conjugate diameter of the Pelvis, towards the *os coccygis*; and is terminated about two inches before the extremity of this bone.

This *sinus muliebris* is inclosed by two prominent folds of the integuments, one on each side, stretching in its direction from the *mons veneris*, and gradually diminishing towards their terminations at the posterior margin of the orifice of the vagina; these are named *labia magna*, which, and the *mons veneris*, begin to abound with hair about the time of puberty.

Between the anterior extremities of the *labia magna*, is apparent the point of the *clitoris*, covered more or less by a semicircular fold of the integuments, called its *præputium*. This organ is attached by its *crura* to the rami of the ossa pubis, like the penis, which it a good deal resembles.

Extending

* PLENCK's Elem. Art. Obst.

Extending from the clitoris backwards, are two vascular doublings of the integuments, of various length and projection, called *labia minora* or *nymphæ*; they terminate at the anterior margin of the vagina uteri.

Between the posterior extremities of the nymphæ, is situated, and apparent, the orifice of the *urethra*, which is a tube somewhat more than an inch in length, and equalling a swan's quill in capacity.

The termination of the vagina uteri, or os externum, is narrowed till the *sexual commerce* has taken place, by a semilunar or circular duplicature of the integuments, named *hymen*; the fragments of which are called *caruncula myrtiformes*.

The whole of the surface within the labia magna, is exceedingly vascular, and copiously stored with mucous and other glands.

The interstice betwixt the os externum and anus, about an inch in length, is called *perinæum*: A depression betwixt the os externum and the perinæum, is named *fossa navicularis*.

The inferior extremity of the vagina is connected to the inferior margin of the bones of the Pelvis, partly by a muscle, named *levator ani*; and to the anus and coccyx, by another, named *sphincter ani*: A continuation of which, on each side of this orifice, is called *constrictor cunni*.

Intestinum rectum.

The *intestinum rectum*, or inferior portion of the alimentary canal, stretches itself from the promontory along the concavity of the os sacrum, and the os coccygis, and is terminated by the *anus*, which may be considered as a *valve*: It is situated about an inch from the inferior point of the os coccygis; its relation to
the

the vagina uteri has been already described : From the vagina upwards, it lies behind the peritonæum, which is reflected from the posterior surface of the uterus, and is of great capacity ; when distended, it affects the position of the uterus proportionally.

Bladder of Urine.

The *bladder of urine*, an ovular bag or cyst, is interposed betwixt the uterus and ossa pubis ; the smooth inclined surface of which is well calculated to give it support.

The bladder of urine, like the uterus, is considered as consisting of *fundus*, *corpus*, and *cervix* ; of this last the *urethra* may be regarded as a contraction and continuation. Both are situated immediately on the exterior and anterior surface of the vagina uteri.

The peritonæum, reflected from the abdominal muscles, about an inch above the ossa pubis, covers a share of the anterior surface of the body of the bladder of urine, its fundus, and almost the whole of its body behind ; from which it is again reflected upon the uterus. Proximity must create a mutual affection of those organs, from distension, &c.

The Gravid Uterus.

The *embryo*, *fætus*, or *child*, being *naturally* lodged in the uterine cavity, the uterus is said to be *gravid* or *pregnant* ; a state termed therefore *gravidity*, *pregnancy*, and *utero-gestation*.

In proportion as the included child is expanded, and acquires bulk, the uterus is necessarily distended in all its dimensions : Its fundus gradually emerges from the superior aperture of the Pelvis, following nearly the direction of the axis, in such sort, that it at last reaches

C

considerably

considerably above the umbilicus, pushing upwards and to the sides the adjacent abdominal organs. The ligamenta rotunda seem a good deal calculated to regulate this elevation or position of the uterus. The fundus is remarkably enlarged; the distance betwixt the Fallopian tubes considerably exceeds twelve inches:—The ovaria are raised a good deal above the brim of the Pelvis, the cervix is gradually obliterated, and even the prominences of the *os tinæ* totally disappear, in consequence of this extreme distension.

The thickness of the substance of the uterus is not much altered during the gravid state. It becomes, however, much more lax and spongy, and its numerous vessels are proportionally enlarged; a change somewhat resembling that which the common integuments suffer, when gradually distended by any subja-cent tumor.

The *flesh-like* or *muscular* appearance which the gravid uterus at last exhibits, has induced some authors to consider it as a muscular organ*: A circumstance by no means to be too readily believed; because its credibility is opposed by the *appearance* in the unimpregnated state, by *function* and by *analogy*.

The Child.

As soon as the child has acquired sufficient evolution and consistence of its parts to be an object of examination, it is found to be included in a *vesicle* or *cyst* containing a fluid; a circumstance which seems to have procured to the whole, the appellation of *ovum* or *egg*.

The exterior surface of the cyst maintains a close contact and adhesion with the surface of the uterine cavity.

When

* Dr HUNTER's Gravid Uterus, Tab. xiv.

When the child and its cyst have acquired greater maturity, it appears that the cyst consists of *two* distinct membranes loosely connected by delicate cellular matter. The exterior one, which touches the uterus, is named *chorion*. The appearance of the interposed cellular substance on the external surface of this membrane, when detached, has obtained to it the appellation of *spongy chorion* *. This part has been also reckoned a distinct membrane produced from the uterus, under the name of *decidua* and *decidua reflexa* †. The interior membrane of the cyst, or that included within and every where touching the chorion, is named *amnios*: It is exceedingly delicate, and immediately contains the fluid in which the child floats, on this account termed *liquor amnii*, and commonly *waters*: the relative quantity is inversely as the size of the child. There is much cause to conclude, that this fluid is prepared and effused by the containing membranes.

These membranes are really a part of the integuments of the child; the *chorion* corresponding to the *cutis vera*, and the *amnios* to the *cuticle*: The continuity is obviously formed along the surface of a vascular rope, named, on account of its reaching the navel, *umbilical chord* (*funis umbilicalis*). The *spongy chorion* is likewise a production of the cellular matter which connects the integuments and subjacent parts.

The umbilical chord consists of *two arteries* and *one vein*. The arteries are direct productions of the internal iliacs, reflected on each side of the bladder of urine: They reach the *umbilical ring* or *opening*, running before the peritonæum: Emerging from the
ring,

* HALLER. Elem. Physiolog.

† Dr HUNTER's Gravid Uterus, Tab. xxviii.

ring, they proceed in a *spiral course* to the chorion, and suddenly ramify on a portion of its external surface, more or less circular. From these extreme arteries spring corresponding veins, which suddenly uniting into trunks, conspire to form the umbilical vein; which proceeds along the arteries to the umbilical ring, in a similar and spiral manner, and tends upward to the inferior surface of the liver, where it joins the *vena portarum* in its *peculiar sinus*, from which a posterior branch immediately enters the *vena cava*, under the name of *canalis venosus*. These vessels, through their whole course, are bound together by cellular substance, particularly their ramifications, among which it is much abundant, and is continuous with the spongy part of the chorion.

The circular mass thus formed by the extremities of the umbilical vessels, is called *placenta* or *cake*; the surface adhering to the womb is proportionally convex, and that which respects the child, concave. The *placenta* and *membranes* together are often called *secundines* and *after-birth*: They are really a *temporary* and *caducous* part of the vascular system and integuments of the included child; which thus considered, constitutes a simple yet complete æconomy; the child may justly be said to be *totus in se atque rotundus*.

The bulk of the child's head seems to be inversely as its age with respect to the other parts. This may be a chief cause of its being very constantly turned downward, or to the os internum. The abundance of the liquor amnii during early life favours gravitation. About this period likewise the umbilical chord is sometimes knotted and entangled about the *limbs* or *neck*.

The body of the new-born child, considered *in toto*, is pyramidal: The head is the base of the pyramid, being

being the part of greatest circumference ; consequently the trunk and limbs may be readily transmitted through any opening by which the head has passed.

The child's head, on this account, deserves to be accurately considered as to its form and dimensions.

The human skull, during youth, is very constantly composed of *eight* pieces at least, *viz.*

Os frontis (frontal bone), corresponding to the *fore-head* ;

Two *ossa parietalia* (parietal bones), answering to the crown (vertex), and neighbouring surface ;

Two *ossa temporum* (temporal bones), placed one on each side or *temple* ;

Os occipitis (occipital bone), forming the *hind-head* and posterior part of the base ;

Os ethmoides (ethmoidal bone), situated in the fore-part of the base, above the nose ; and

Os sphenoides (sphenoidal bone), completing the middle portion of the base.

These pieces making up the skull, are connected by a mode of articulation called *suture* or seam (*futura*), of which the various portions, seven in number, have obtained specific names, *viz.*

That which connects the frontal bone and anterior extremities of the parietal bones, is *coronal suture*, extending from temple to temple ;

That which fixes the posterior extremities of the parietal bones to the occipital bone, is *lambdoidal suture*, stretched from the base behind the temporal bone on one side, to a corresponding point of the other, nearly coinciding in direction with the coronal suture, both inclining considerably backwards ;

That which runs between the corresponding edges of the parietal bones, from the coronal to the lambdoidal suture, is *sagittal suture*.

Those

Those which surround the temporal bones, one on each side, are *temporal futures*;

That which incloses the ethmoidal bone, is *ethmoidal future*; and

That which joins the sphenoidal bone to the contiguous bones, is *sphenoidal future*.

At birth, the ossification being incomplete, the futures are not formed: Their future situations, however, can be distinctly traced. In points corresponding nearly to the extremities of the sagittal future, are the remarkable deficiencies of bone, named *anterior* and *posterior openings of the head* (bregmata, fontanellæ).

In every period of existence, the human skull, and consequently the head, enjoys more or less of the *ovoid* or *egg-like* form; of which the forehead is the *small*, and the hind-head the *great* extremity: Of course, the *long axis* stretches from the forehead to the hind-head; and the *short one*, cutting this at right angles, extends from ear to ear.

The *dimensions* of the child's head at birth, are considerably various, the *mean measurement* of its axes, according to PLENCK, in *Parisian inches*, is:

Long axis,	-	4 inches.
Short ----	-	$3\frac{1}{4}$ — *.

Two skulls accurately measured, were found to possess the following dimensions:

			Inches.	Eighths.
	<i>First.</i>			
Long axis,	-	-	4	7
Short ----	-	-	3	6
				<i>Second.</i>

* Elem. Art. Obst. p. 14.

	<i>Second.</i>		<i>Inches.</i>	<i>Eighths.</i>
Long axis,	-	-	4	3
Short ----	-	-	3	2
<i>Mean Dimensions.</i>				
Long axis,	-	-	4	5
Short ----	-	-	3	4 *

A *vertical section* of the child's head immediately behind the general axis of the body, approaches nearly to a *circle*.

The membranous connection, or the absence of suture, permits the form of the child's head to undergo surprising changes during parturition, consistently with survival; a circumstance productive of the most happy consequences.

* The second skull belonged to a twin child.

PUERPERAL PHYSIOLOGY.

IT is the province of *Puerperal Physiology* to explain the *uses*, the *functions*, or *æconomy* of the female parts or organs. The chief are to permit,

1. Menstruation.
2. Pregnancy.
3. Parturition.

Menstruation.

Menstruation is a periodical flow of blood from the uterus.

The monthly return of this discharge has procured to it the name of *menfes* and *menstruation*.

The usual interval between two consecutive menstrual discharges, is about a lunar month, or twenty-seven or twenty-eight days; so that menstruation happens thirteen times in a year.

The quantity of the menfes is various, according to habit and other circumstances; in general, it is six or eight ounces.

The menfes are not suddenly discharged; on the contrary, the effusion continues for several days.

The arteries which terminate on the surface of the uterus, and appear to be analogous to the exhalants on other portions of the surface, furnish the menfes.

The appearance of the menfes may be regarded as a mark of the *maturity* of the female system. The time of life at which this happens, is varied by climate and other causes. In this latitude, it takes place about the fourteenth year.

It is difficult to point out in a satisfactory manner, the state of the uterine vessels, and of the system at large,

large, which immediately causes the eruption of the menses.

A degree of *plethora*, or *fulness* of the vessels, is perhaps always very much concerned in the menstrual flux. It does not seem to be a point of much weight to determine whether this be *local* or *general*; the difference is only that between a *part* and a *whole*.

It is a much more difficult business to assign the *causes* of the *periodical return* of menstruation, at intervals, in general, surprisngly exact. A reference to the effect of the *moon* is not a proper solution of the question.

This discharge is sometimes perceived to be about to happen, by a painful sensation in the lumbar region, which is that of the uterus.

The menses cease to appear, in this country, when the female has attained her forty-fifth, or at most her fiftieth year. In southern climates, where the discharge appears early in life, the time of ceasing is proportionally anticipated.

The *final cause* of menstruation seems to be to preserve a *condition of the vessels, especially those of the uterus, favourable to pregnancy*; because, before and after its appearance, and during any remarkable irregularity, pregnancy does not happen.

Pregnancy.

Pregnancy, or conception, is the existence of the *fœtus*, embryo, or *young animal*, in the cavity of the uterus; at least this generally is its situation; if it be placed elsewhere, it is said to be *extrauterine*.

The mind cannot turn its attention to a fact, in the natural history of animals, more astonishing than *generation*, or the production of the *fœtus*; accordingly, in

every age, it has engaged a due degree of philosophical research. It is much to be regretted, that a just explication of such an interesting event has not been the reward.

The following are the principal hypotheses that have been formed on the subject of generation, with a view to explain its nature and phenomena.

1. That it is effected by a *mixture* of the *male* and *female* seminal fluids in the cavity of the uterus, and sometimes in the Fallopian tubes and ovaria.—HIPPOCRATES, and other venerable ancient philosophers, have proposed and supported this opinion.

2. That it is caused by *eggs* or *ova* really existing in the female testes, therefore named *ovaria*; and that one or more of these are possessed or impregnated by one or more of the numerous *animalcules* which are said to abound in the male seminal fluid.—HARVEY, GRAAF, SWAMMERDAM, and others, have adopted this theory.

3. That the *rudiments* of the fœtus (*germen, ebauche*) exist in the egg *previously* to the sexual commerce; and that it depends on the male fluid acting chiefly as a stimulus on the female organs, and occasioning the deposition of the fœtus into the uterus, in the viviparous animals.—M. M. BONNET and SPALLAZANI are principal abettors of this doctrine.

The very ingenious COUNT DE BUFFON seems to be of opinion, that the first hypothesis is nearest to the truth; that *organic molecules*, or *living particles*, derived from every part of the body, present in the seminal matter, *coalesce* and are *organized* according to determinate laws of attraction, perhaps somewhat in the style of *crystallization*. He has made many expensive experiments

experiments to refute the idea of *ova* existing in the viviparous tribes *.

Much ambiguity rests on each of these hypotheses. The first one is the most agreeable to the idea of conception and generation being the *instant* production of a young animal in consequence of the sexual commerce. The second, which is founded on the presence of animalcules in the male fluid, to which the female only affords a *nidus*, or a situation favourable to evolution or growth, and the third, which supposes the fœtus to be totally or almost wholly the production of the female, only remove the difficulty a single step; for the question recurs, How are the supposed animalcules, or rudiments of animals, originally formed? Or what is their generation?

Upon the whole, respecting conception or generation, this much seems to be tolerably certain, that the ovaria, or rather the testes, are the only organs, on the part of the female, which are truly feminal or genital; that, in consequence of a feminal matter communicated from the male, *a something* equally essential is discharged from one or both of these organs, and, by means of the uterine tubes, lodged for the most part in the cavity of the womb, there to acquire growth and due maturity to be born.

When philosophy shall have become so perfect as to be able to explain the *causes* of *organization* in minerals, but much more in vegetables, we may reasonably expect some satisfactory theory on animal generation; they perhaps radically depend on the same general and simple laws.

Superfœtation.

* Histoire Naturelle, Tom. II. chap. iv. I shall be very sorry if it shall appear that I have mistaken or distorted the theory of this illustrious man.

Superfoetation.

Superfoetation is the conception or generation of a *second* fœtus, while the first is as yet in the uterus; or it is conception during pregnancy.

This is a phenomenon which very rarely occurs. HALLER admits it as a fact *. A *double* uterine system may render it possible †.

Monsters.

The fœtus not enjoying the usual conformation is called a *monster*. Deviations, or *lusus naturæ*, in this respect, are rare. Sometimes there is a *deficiency*, and sometimes a *redundancy* of parts; at other times two nearly entire fœtusses are found to be more or less connected or blended together.

It is an obvious point, that till the generation of the perfect animal can be accounted for, it must be highly absurd to attempt to give any theory respecting monstrosity: Referring this, in any degree, to the *working or effect of the mother's imagination*, is a custom not less ridiculous and whimsical than pernicious.

Mole.

A *mole*, or *false conception*, is the formation of a rude flesh-like mass in the uterus.

This is not a frequent production. It has been ascribed to some jumble or alteration in the original conception of the fœtus: and to a portion of the lymphatic matter of the blood collected in the uterus totally unconnected with generation.

Nutrition

* Prim. Lin. § DCCCCLXIX.

† I have seen a double uterus and vagina in an anatomical collection at London.

Nutrition of the Fœtus.

The nutrition of the fœtus has been attempted to be accounted for, on one of the following hypotheses.

1. That it *swallows* the liquor amnii.
2. That the mother's fluids or blood loaded with nutritious parts, are conveyed to it by a *continuity* of vessels existing betwixt the uterus and placenta.
3. That it derives its nourishment by means of *absorption*, performed by the placentary vessels, from the uterus, without any other connection than contact; merely as the chick absorbs the white and yolk of the egg while within the shell; or as a vegetable draws its food from the soil and atmosphere; or as is done by one vegetable growing upon another*.

The

* I lately was requested, by Dr *David Spence*, to inject the vessels of a woman who had died during parturition and undelivered. I made use of a solution of *glue* blended with vermilion, which many eminent anatomists think is better calculated to enter the small vessels than most other compositions usually employed. Upon careful dissection, it appeared that not a particle of the injected matter had entered the vessels of the placenta or umbilical cord; both which I examined attentively. Some clots of it were found between the uterus and the surface of the placenta.

This business has been misrepresented to Dr *MONRO*, because he quotes it as an instance in which the injected matter passed into the placenta, and even the umbilical vessels, as a proof of the *continuity* of vessels, which, he affirms, exist between the mother and fœtus, and are the channels of its nourishment. It is surprising that a Gentleman of his superior understanding should so readily credit an unauthenticated narration: It perhaps may be accounted for from the keenness and ambition of system, which are sufficiently powerful to warp the judgment in most instances.

A sacred regard for truth is the only motive that makes me advert to this matter at present. I might otherwise remain very well contented with the seeming honour of having succeeded better in the injecting art, than any other anatomist I have ever conversed with, or heard of.

The last of these doctrines is the most satisfactory, because it affords a more full solution of phenomena than the others, and is greatly supported by analogy.

Symptoms of early Pregnancy.

The early state of pregnancy, or its existence for the three or four first months, is not always easily detected. The judgment is guided by the changes discoverable in the whole system, adjoining organs, and in the uterus and fœtus itself. The chief symptoms, therefore, are,

1. Anorexia, or sickness, nausea, and vomiting.
2. Some degree of emaciation discoverable in the countenance.
3. Paleness of the face, especially about the mouth.
4. Suppression of the menses.
5. Swelling of the hypogastrium or uterine region.
6. Increased volume of the uterus itself, and alteration or shortening of its cervix, discovered by touching.
7. Motion of the child: This, in general, is not perceptible till betwixt the fourth and fifth month.

Some of these symptoms are equivocal; the information acquired by touching is the most certain: An opinion ought to be rested upon a concurrence of a plurality of them*.

The states of disease for which pregnancy may be mistaken, are not very numerous; an acquaintance with the general pathology is necessary to attain an accurate discrimination.

Advanced pregnancy is scarcely to be mistaken for any other affection.

A

* BOUDELOQUE *l'Art d'Accouchmens*, Tom. I. § III.
PLENCK *Elem. Art. Obst.* p. 37.

A probable explication of the causes of the symptoms enumerated, may be perhaps drawn from the change the uterus, as a sentient organ, is subjected to after it is pregnant, and the mechanical effects it may thus produce on contiguous ones *.

Parturition.

Parturition, or the expulsion of the child from the uterus, is known to be about to happen, by

1. A mucous discharge unusually increased from the os externum ;
2. An irksome sensation about the os internum ;
3. Alteration in the shape of the abdomen ;
4. The membranous state with some dilatation of the os internum ;
5. Laxity of the os externum and vagina.

Symptoms of Parturition.

Parturition is known to be begun, by

1. Pain occurring at intervals in the loins and adjacent parts ;
2. Tenesmus, or pressure downwards, accompanying the pain, and keeping proportion with it ;
3. Tension of the belly, and retention of the breath, during the pain and tenesmus ;
4. Sensation

* HALLERI Prim. Lin. § DCCCLXXX. This noble and illustrious Author seems whimsically enough to refer some of the symptoms recited to the absorption of a part of the male fluid become putrid in the cavity of the uterus. His words are, " Varias adfectiones incommodas nova mater eo tempore patitur, quas credas esse a resorpto semine masculino, subputrido et subalcalino. Fere enim ut ovi rancidi devorata particula, ita a conceptione nausea cietur, etiam potissimum carniū, et vomitus, et pustulæ aliquæ erumpunt, dentesve dolent. Majora incommoda et tumori uteri, viscera ab dominis complimentis tribuo, et retentis mensibus."

4. Sensation of considerable uneasiness, during an attempt to walk or move the body ;
5. A frequent desire to void the urine and fæces ;
6. Dilatation of the os internum, which is increased during the pressing pain, so as that a portion of the membranes can be felt.*.

Pains not of this description, are called *false*.

Causes of Parturition.

It is no easy task to point out the *causes* which induce parturition at the *same term* of pregnancy, with such surprising exactness, notwithstanding different sizes of mothers and fœtusses.

The cause most immediately concerned in exciting parturition, seems to be the *extreme distension* of the uterus, which produces an irritation or tenesmus, resembling that caused by fæces in the rectum, and a similar effort ; the abdominal muscles and diaphragm are thrown into strong action at the same time, by which the uterus is compressed, and its orifice put on the stretch. This action is called *a labour-pain* or *throe*.

The pain is the immediate effect of distension of the os internum, and produced by muscular action ; the *contractility* of the uterus itself is comparatively *weak*, and perhaps does not resemble that of *muscle*, and is not so efficient as some have supposed.

Progress of Parturition.

The throes frequent and strong, the head or some other part of the child may be felt, covered with the membranes, by the finger in the os internum, now
considerably

* PLENCK's Elem. Art. Obst. p. 46.

considerably open. The membranes, especially during a pain, tense and protruded somewhat like a bladder distended with water, being unsupported, are soon burst, and the liquor amnii is suddenly discharged; this event is called the *breaking of the waters* by the women. An aggravation of the pain for the most part follows; the os. internum now as wide as the pelvis; the head (the part usually presented to the passage, or lowest) can be felt at the brim, and by and by in the cavity of the pelvis, and its vertex pointed to the os externum. This part of the head becomes apparent, the perinæum and adjacent surface are forced outwards like a great tumour, while the fæces in the rectum are ejected from the dilated anus. The mother's cries at this crisis are exceedingly bitter, and mark the racking anguish. The head is at length born, by the vertex moving forwards and upwards, so that the face emerges from the perinæum extremely stretched. The trunk and limbs are soon expelled.

A considerable hæmorrhage, or flow of blood, follows the birth of the child, amounting commonly to about a pound, which seems to have been poured out from the uterine vessels.

The parturition cannot be regarded as completed, till the placenta or after-birth be expelled, because this is a part of the fœtus.

The placenta, perhaps somewhat disengaged from its adhesion to the uterus before the other parts of the child are expelled, is gradually and entirely loosened and thrown out by the same powers which had acted hitherto, within an hour or two, and often much less time.

A farther discharge of blood succeeds the expulsion of the placenta, equalling, often exceeding, the quantity

tity formerly thrown off. The hæmorrhage gradually subsides, and within two or three days disappears for the most part. It is called *lochia* and *lochial discharge*, and by the women the *cleansing* *.

Management of the Puerperal Female.

It is obvious, that parturition, proceeding as described, is altogether a *natural* and *healthful action*, and its description justly comprehended under the Puerperal Physiology; and that the Accoucheur ought not to consider the woman to be under *disease*, or that the interference of art is strictly necessary. At the same time, it must be confessed, that, by adopting a proper plan of management, the child-bed state may be rendered less irksome than it would otherwise be.

The principal circumstances requiring attention in the puerperal condition alluded to, are,

1. The arrangement of the dress of the woman and bed-clothes. They ought to be light, and calculated to permit occasional removal with as little disturbance or agitation as possible.

2. The chamber. This ought to be large and well aired, at same time that it is capable of being made close and warm occasionally.

3. The posture of the woman, particularly during the immediate act of delivery. This may be various.

The *sitting attitude* may be adopted, by means of a *chair* or *stool* of a proper construction †.

The *kneeling situation* can be used.

The *horizontal posture* or *lying on the back*, the limbs and breech projecting over the bed-side; or

* HALLERi Prim. Lin. § DCCCCXXVII.

† PLENCK's Elem. Art. Obst. Tab. I.

on the side, the knees drawn somewhat upwards, while the whole of the body is within the bed, and covered by the cloaths, may be employed, and is, in general, the preferable mode.

In the intervals of the pains, the woman may be indulged with an alteration of posture, or even walking gently about the room. It seems cruel and improper to insist on a rigorous confinement to the bed during the whole of the parturition.

4. Food and drink. These ought to be of easy digestion and weak; and the last may be given cold.

5. Temperature. The healthful degree ought to be procured.

6. State of the bladder and rectum. These organs to be emptied.

After the degree of progress of the parturition is ascertained by touching, it seems to be unsuitable conduct to repeat this operation too often; the less handling, the better. Neither does it seem to be absolutely necessary to support the perinæum during the transmission of the head through the os externum, although a moderate counteraction of the distending force is not likely to do any harm. Any drawing by the head of the child, or the umbilical cord, with a view to hasten and complete the expulsion, is not only unnecessary, but hurtful: The child ought to be *received*, as also the placenta.

Applying *bandages* or *swathes* about the abdomen, immediately after parturition, with a design to compress, does not seem to be a usage demanded by nature.—It may be hurtful.—If at all adopted, the slightest degree alone to be made.

Abstaining from all motion and exertion for a considerable

siderable time after parturition, seems to be, in every view, a rational and salutary plan *.

Management of the new-born Child.

As soon as the child is born, it ought to be put in an easy attitude, the mouth exposed so as to favour the commencing of respiration, which is marked by deep sighs and crying.

When the breathing is begun, the *permanent* part of the child's system may be separated from the *temporary* part of it, by *tying* the umbilical cord about an inch from the umbilicus, and cutting it a little beyond the ligature.

The new-born child ought obviously to be managed on this general principle, *viz.* The *transitions* or *changes* it undergoes ought to be as *gentle* and *gradual* as possible. The *dress*, therefore, ought to give no undue constraint, while it is the softest, and sufficiently warm; and, for the same reason, no *irritant* substance ought to be applied to its body, under any pretext whatever, either *internally*, or *externally*.

The principle recited guides the administration of *food*. The *mother's milk* may be given as soon as possible: When this cannot be procured, that of another woman may be substituted; or any *mild* composition partaking of the *animal* nature, or resembling human milk, may be given in small quantities, and at suitable intervals †.

P U E R -

* In the EDINBURGH LYING-IN HOSPITAL, the *obstetrical couch* is so constructed, that the person lies upon it, for a requisite space of time after the delivery, as if she were in an ordinary bed.

† The rearing of infants, *without suckling*, or by the *spoon*, as far as my observation has reached, has been very unsuccessful in this country; a great proportion having perished. It is a violent deviation from the line of nature, and therefore only to be justified by necessity; and still the *imitation* ought to be as close as possible.

PUERPERAL PATHOLOGY.

PARTURITION proceeding to a happy termination, as described, within the ordinary time, may be called *ordinary* or *natural*; but when uncommonly protracted, it may be named *extraordinary* or *difficult* parturition *.

Difficult parturition partaking obviously of the nature of *disease*, and too often inducing mortal consequences, the consideration of it is justly to be regarded as falling under *Puerperal Pathology*, and urgently requiring the interference and assistance of the healing art †.

Extraordinary parturition is distinguished into,

I. Lingering.

II. Preternatural.

I. Lingering Parturition.

Parturition is said to be *lingering*, when it is unusually protracted, although the child's vertex be presented, as in ordinary labour; it is sometimes likewise called *laborious*, and *non-natural*.

Causes.

Before assistance of art can be rationally administered, the causes of the protraction or lingering must be attentively detected. The most considerable are,

On the Part of the Mother.

1. Distortion of the bones of the pelvis.
2. Rigidity of the soft parts.

3. Obli-

* The synonymes are *dystocia*, *atocia*, *partus difficilis*, *difficult labour*, *non-natural birth*.

† Elements of Physic and Surgery, vol. ii. p. 461.

3. Obliquity of the uterus.
4. Want of pains.
5. Tumour in the vagina.

On the part of the Child.

6. Morbid enlargement.
7. Resistance of the membranes.
8. The umbilical cord shortened.

Each of these causes requires a special consideration, so as that they may be removed by a solid and judicious practice. Some of them are so formidable as to place the Accoucheur in the most critical and trying situation.

1. Distortion of the Bones of the Pelvis.

The bones of the pelvis are said to be distorted, or deformed, when the usual or standard dimensions are impaired.

The following circumstances render a distortion probable :

1. Visible distortion of the bones of the spine or limbs.
2. The child's head remaining uncommonly long at the brim of the pelvis, notwithstanding the pains being sufficiently strong and frequent.
3. Swelling or thickening of the integuments of that part of the child's head which is lowest. This, when considerable, has been called the *sugar-loaf* or *mould-shot head*.

The only certain information regarding this distortion, is to be collected from *examination* and *measuring*, which may be done externally and internally.

The capacity of the pelvis, at its brim, is impaired in its short diameter most frequently, by the promontory

tory of the os sacrum, or the ossa pubis, or both, projecting unusually towards the axis: Sometimes not an inch of opening has been left *. At its bottom, it is narrowed in one or both, by the mutual intrusion of the opposite points of the bones.

The distortion of the pelvis may be detected, especially when considerable, by the hand applied externally or internally. But it is necessary to ascertain the degree of narrowing with as much accuracy as possible. This cannot be done by the hand alone; it must be effected by the assistance of,

1. A simple scale †.

2. A pelvimeter, or proper gauge ‡.

Although the short diameter may be discovered to be impaired to *three inches*, the transmission of the *entire* and *living* child is still possible ||. No expedient, therefore, incompatible with this event, is to be adopted; and no assistance whatever to be administered, till the pains have a full exertion.

When fairly indicated by a failure of strength, or any other cause, attempts may be made to promote the
passage

* *Essays and Cases in Surgery*, which I lately published.

† I have marked a scale of inches and parts on the female catheter for this purpose.

‡ Dr STEIN has invented a pelvimeter to measure the dimensions of the pelvis externally. M. COUTELAY devised another for measuring its short diameter internally. I have constructed a very simple one, more manageable than that of the gentleman last mentioned, and which answers equally well for the external or internal measurement, in every dimension, and with all possible accuracy.

|| *Recherches sur la Section du Symphyse du Pubis*, par M. ALPHONSE DU ROI. This author fixes a standard somewhat higher. His words are, "*La diametere qui traverse la tete d'un enfant a sa naissance a pour le moins trois pouces un quart.*"

passage of the head through the pelvis thus narrowed, by,

1. The hand.
2. The lever.
3. The forceps.

The gentlest exertions ought to be made at first.

The *lever* of a proper construction *, and dexterously employed, is a powerful instrument, and of more extensive application than the *forceps* †. This last is only applied with due advantage, when the head is so much advanced into the pelvis, that the face is lodged in the cavity of the os sacrum; whereas the former is successfully used, when on the brim, as well as in the cavity of the pelvis.

These instruments are introduced, after being properly oiled, and gently heated by tepid water or otherwise, along the hand, till they are certainly in contact with the head, and duly applied: The exertion or drawing is to be in the direction of the axis of the

* The lever was first introduced into midwifery by ROONHYSE. It may be considered as an *artificial* hand. I have constructed it so, that, after it is introduced, the curvature may be exactly proportioned to the convexity of the part of the child on which it acts; in consequence, its pressure is more diffused, and less injurious. I call it the *living lever*.

† The forceps had been mentioned by HIPPOCRATES for the extraction of the dead; by ALBUCASIS for the extraction of the living child. CHAMBERLAIN was the first who introduced them into general use: They have been somewhat altered by SMEELIE and LEVRET. Dr LEAK has added a *third* blade to be used in some cases.

I have altered the manner of *locking* the forceps, so as to render this matter easier to the practitioner, and the whole instrument more safely applicable to the mother and child. When constructed like the *lever* already mentioned, it is named *living forceps*.

the pelvis, so as to co-operate with the pains. They are most commodiously used while the woman is laid on her back, the breech a little projected over the bed's edge, and the Accoucheur sitting before, on a low chair.

The degree of distortion being ascertained to be so great as to render the transmission of the child impossible by the methods suggested, recourse must be had to one or other of the following expedients.

1. Pelvotomy,
2. Hysterotomy,
3. Embryotomy.

Pelvotomy.

Pelvotomy, or the *Sigaultian operation*, procures augmentation to the pelvis, by cutting the symphysis pubis, that the ossa innominata may be at liberty to recede from one another, as far as the posterior symphyses and connected parts permit.

The object of this operation is to preserve the life of the child and mother, by rendering the other expedients unnecessary.

Unquestionably, when a small increase of the short diameter of the pelvis shall appear sufficient to permit parturition, it may be procured by this operation. But when the disproportion betwixt the head and pelvis is great, it must be ineffectual: Performing it promiscuously, or in improper circumstances, has contributed to disgrace this improvement *.

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* M. SIGAULT, the inventor of this operation, and Dr LEROY, of Paris, had the honour to perform it for the first time in 1777, on the living human body. The ossa innominata receded mutually somewhat more than two inches and an half; a living child was transmitted through a pelvis, whose short diameter was only two inches and

A longitudinal incision of the integuments and muscles, extending about four inches above the symphysis pubis, and to the orifice of the urethra nearly, is requisite to permit the separation of the bones; then the cartilage is carefully cut, so as to avoid wounding the bladder or urethra*.

A good deal of attention to the treatment of the wound is unquestionably needful.

Hysterotomy.

Hysterotomy, or the *Cæsarean operation*, is an incision of eight or nine inches longitudinally through the containing parts of the abdomen, a little to one side of the linea alba, and one of six or seven inches in the same direction through the anterior part of the body of the uterus, to obtain a passage to the child, and supersede parturition.

This tremendous and successful operation † can only be warranted, when the contraction of the pelvis is too great to allow parturition to be completed by pelvotomy or embryotomy, or when the mother near the time of delivery dies suddenly, with a view to save the child. Its object, in general, is to preserve both mother and

and an half: The mother recovered well. It has, since that period, been performed eight or nine times, with various success. The arguments for and against this practice, may be consulted in the publications of Drs LEAK and OSBURN of London.

* I have invented a knife, by which the cartilage, although somewhat ossified, may be safely divided. This removes one objection to the practice.

† See Dr OSBURN's Treatise on Laborious Birth. In it a masterly view is given of the Cæsarean practice.

and child: It has never been fully successful in Britain *.

Embryotomy.

Embryotomy, or *Embryulcia*, is the diminishing the size of the child's head, or body, that it may be transmitted through the distorted pelvis:

It is essential to this dreadful operation, to destroy the child! Its intention being to save the mother; it ought never to be performed when her life can be obtained by any other means, the child being alive.

The lowest part of the head is sufficiently opened by a *perforating instrument* †; the distended brain is soon discharged; in consequence, the head shrinks, and then sometimes the child is expelled by the pains. If this does not happen, *crotchets* or *hooks* properly sized and curved are employed ‡.

Dr OSBURN is of opinion, that embryotomy may be performed even when the short dimension is reduced

* I saw it performed in the Infirmary of this city: The unhappy victim died about twelve hours afterwards. I have been informed, that sufficient indication did not exist in this instance. Is it not practicable to supersede this Cæsarean operation by a *new mode of pelvotomy*? viz. after making proper incisions through each process of each os pubis to the thyroid holes, as near to the crural vessels as safely may be, without wounding the peritonæum, bladder, or vagina, the disjoined piece is then to be moved forwards sufficiently to permit parturition by the pains or art. If due attention be paid to the healing of the wound, full capacity may be maintained. This idea seems worthy of experiment.

† The *long scissars* commonly recommended for this purpose, is an exceptionable instrument in various respects. One a good deal resembling the scissars invented by Dr DENMAN, as I have been informed, is preferable. I have contrived an instrument that is commodiously and safely used for this purpose. I call it the *embryotomy-knife*.

‡ M. MAYNARD, it would appear, improved the crotchet, by giving it a curvature suited to the convexity of the head. One made *flexible*, like the *living lever*, promises considerable advantages in this horrid business, especially when the space is small.

ced to an inch and half, the breadth of the basis of the child's skull; and that it may supersede hysterotomy*.

2. Rigidity of the soft Parts.

The os internum and externum are the parts which, when *rigid* or *unduly resistant*, produce lingering birth. It takes place in the more elderly females, who have not before been in child-bed. It is easily discovered, and generally is at last surmounted by the pains. Assistance may be derived from,

1. Blood-letting, when the habit is vigorous,
2. Opium, locally,
3. Emollients, as oil, tepid water, &c. applied to the parts perseveringly,
4. Mechanical distension by the hand, &c. †,
5. Incision ‡.

3. Obliquity of the Uterus.

Such a degree of *obliquity of the uterus* (hystero-loxia) as is capable to produce lingering parturition, seldom or never exists.

If the fundus of the uterus is discovered to hang uncommonly over the os pubis, so as to receive the pressure of the expelling muscles unfavourably, it may be replaced and supported, by flannel swathing or the like †.

4. Want

* See his Treatise on Laborious Birth. He seems to set by far too low a price on the unborn child. I am afraid lest the specious arguments of this ingenious Author should induce practitioners to recur to embryotomy without proper warrant.

In cases of *distortion* known to be so great as to render the birth of a *living* child *impossible*, is it *lawful* and *proper* to have recourse to *artificial abortion*?

† The Speculum Matricis of the Ancients seems to have been at least partly intended for this office.

‡ See SMELLIE's Cases.

|| DEVENTER imagined this to be a frequent and powerful cause of tedious birth. See his Book.

4. *Want of Pains.*

Want of pains producing lingering birth, is easily discovered. This cause, for the most part, spontaneously and gradually disappears. If it depend on inanition and faintness, (to be judged of by the complexion and pulse), nourishing food and cordials may be suitably used.

5. *Tumour in the Vagina.*

Polypus is the principal *tumour* which forms in the vagina, that may protract delivery: It is easily felt, and must be removed by incision or ligature*.

6. *Morbid Enlargement of the Child.*

Enlargement of the child protracting delivery, most frequently takes place in the head. It is caused by the *local dropsy*, named *hydrocephalus*, which may be *external*, or without the skull, or *internal*, or within it and the brain†.

The head is known to be thus affected, by,

1. Size,
2. Softness.

The Accoucheur ought always to presume, that the affection in question is external, and make the incision to discharge the fluid, that the head may be diminished, only through the scalp; because, when it is really so, the child will thus be saved. If it then appear that it is internal, embryotomy may be performed, or the perforation may be carried into the skull and brain. For the first purpose, the *finger-scalpel*; for the second, the *embryotomy-knife* may be employed.

If

* Systematic Elements of Surgery.

† Dr WHYTE's Treatise on this affection after birth.

If *ascites*, or *dropsy* of the abdomen, be discovered to prevent parturition, after the upper parts of the body are born, a trocar of a proper form may be guided cautiously along to make a perforation.

7. *Resistance of the Membranes.*

In general, the membranes are delicate, and easily burst by the pressure or pains: If, however, their *uncommon density* and *resistance* be detected to prevent the progress of the head or other part of the child, nothing forbids wounding or puncturing them. This is best done when they are distended and protruded during a pain; and the fittest instrument is the *finger-scalpel*.

II. *Preternatural Parturition.*

The principal presentations called preternatural are those of,

1. The face,
2. The breech, or one or both feet,
3. The umbilical cord,
4. The arm or shoulder.

The form of the child in utero, considered with relation to that of the uterine cavity, renders the presentation of the *back* or *belly* improbable.

Symptoms.

A knowledge of the existence of preternatural parturition, and of the kind of it, is acquired by,

1. Touching,
2. Inspection.

Turning the Child within the Uterus.

Rectifying the position of the child in the uterus, so as to render delivery possible, or less difficult, is
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an operation named *turning*, (*versio fœtus artificialis*) *.

The direction of the axis of the pelvis and uterus, with which that of the hand and arm of the Accoucheur ought to coincide in turning, points out the *proper situation* of the woman for this purpose, to be any one in which this coincidence of direction is conveniently attainable. Lying on her side or back, or resting on her knees and elbows, upon a bed of a proper height, in general, are preferable attitudes.

The attitude of the woman for this operation being determined and adopted, the operator in the most delicate and cautious manner introduces his hand, done over with oil, through the passage into the uterus, to such a length as enables him to seize *one* or *both* the feet of the child, (they are readily distinguished by the figure), and guide it or them into the vagina: He then judiciously co-operates with the pains to complete the delivery, by gently drawing in a just direction, and during the progress proportionally varying the situation of the child, according to the form of the pelvis.

Difficulties of Turning.

The principal *difficulties* experienced in turning, are produced by, or consist in,

1. Want of dilatation,
2. Impaction,
3. Situation of the feet,
4. Delivering.

1. Want

* PLENCK Elem. Art. Obst. Versio fœtus est artificiosa manipulatio, qua situs fœtus, pro partu ineptus, ope manus obstetricatoris mutatur, ut fœtus *pedibus* ex uteri cavo extrahatur. P. 159.

1. *Want of Dilatation.*

Sufficient dilatation, when turning is attempted, may be procured chiefly by mechanical distension with the hand, as recommended against rigidity.

2. *Impaction.*

When the child is impacted, or much squeezed into the upper part of the pelvis, turning is thereby rendered proportionally difficult. This accident is superseded by performing the operation before the liquor amnii has been discharged, and surmounted by pushing the impacted part upwards, so as the hand may pass beyond it, by cautious and persevering pressure in a just direction.

3. *Situation of the Feet.*

The child's feet are most likely to be placed *laterally* as to the uterus, and therefore caught most conveniently by the correspondent hand of the operator. The side towards which they lie is ascertained by careful touching. The one may be secured by a lac, while the other is sought for. Delivery may be completed, although one only be found.

4. *Delivering.*

The footling birth, or delivering when a foot or feet have spontaneously presented, or been made to do so by turning, is always a *critical event* to the child. The success very much depends on the head taking the proper turns to favour its transmission through the pelvis. This happens after it has passed the brim, when the face falls into the cavity of the os sacrum, and the chin emerging from the distended perinæum, is the first born or apparent part.

When

When the face of the child is turned to the pubes of the mother, the transmission is much impeded, chiefly by the head being then apt to be detained at the brim of the pelvis : A proper posture is procured, by proportionally turning the child about the axis of its own body, or that of the pelvis.

After the head is lodged in the cavity of the pelvis, the rigid or undilated state of the soft parts often creates much, and even dangerous resistance, and requires the aid of,

1. The hands,
2. The lever,
3. The forceps.

This resistance may be somewhat diminished, by extracting the arms, which are generally extended along the sides of the head.

The gentlest exertions ought to be first made. Sometimes they are necessarily so great, as not only to kill the child, but to separate the trunk from the head, leaving this within the uterus or vagina.

The head thus detached, is extracted by the means above mentioned, and by embryotomy, when these are found to be inadequate.

1. *Presentation of the Face.*

Presentation of the face, commonly called a *face-case*, is the slightest deviation from ordinary parturition. It is rectified by giving the head the proper direction by a dexterous use of the lever ; the *living* one, on account of its being applicable, and more commodiously managed in a small space, is preferable. During the attempt with this instrument, the chin is supported by the fingers, so as to become the centre of motion to the head.

The case being now rendered natural, no farther operation or art is requisite.

In so far as turning is a dangerous operation, it seems not to be indicated by the face-case, which indeed is often delivered without any art.

2. *Presentation of the Breech, a Foot, or Feet.*

The presentation of the breech is carefully to be distinguished from that of the head; and of a foot, from that of a hand.

Experience shows, that presentation of the breech, and consequently of the feet, does not hinder the completion of delivery by the energy of the pains alone.

The *blunt hook* is a pernicious instrument, and therefore not to be applied to the living child. The impacted breech may be considerably extracted, without much injury to the child, by a dexterous use of the living lever or forceps upon the haunches.

3. *Presentation of the umbilical Cord.*

The umbilical cord presenting or falling down into the os internum or vagina, before the other parts of the child, especially the head, is subjected to pressure, by which the circulation of the blood is more or less interrupted, and produces dangerous effects.

This event does not seem justly to warrant the very doubtful practice of turning, which has been generally recommended*. The cord may be pushed beyond the head, and freed from compression, by,

1. The fingers,

2. The

* Dr SMELLIE recommends this conduct in the most explicit terms, in his *Midwifery*, vol. i. p. 351.

2. The lever properly formed. With this instrument it is scarcely possible to fail in any case *.

Suppose the hand introduced for the purpose of turning, Is it not in the power of the operator to replace the cord, and thus supersede turning?

4. *Presentation of the Arm and Shoulder.*

When the arm or shoulder is presented in the axis of the pelvis, the head is necessarily turned to one side of it. This circumstance is easily investigated.

This presentation is a deviation the most remote from the natural one; not admitting of delivery without art. The practice constantly recommended in this condition, is to turn and render the case footling; at least this is the sentiment of the moderns, from PARE downward †. The ancients in general, and some of the moderns, indulged the natural idea of drawing it from the side of the pelvis, and placing it in the axis of this cavity, and allowing the progress to take place as usual.

As turning, and its consequences, are attended, especially in a first parturition, with no small risk to the child, it ought as much as may be to be avoided, by attempting to execute the ancient precept, by dexterously employing,

1. The hand introduced within the vagina or uterus, as the case shall demand;

2. The

* In the edge of the point of the lever, I have, for this purpose, made a *groove*, to retain and carry along the cord with absolute certainty.

† PARE Opera Chirurgica, lib. xxiii. cap. xxxiii.

SMELLIE's Midwifery, vol. i. p. 340. &c.

PLENCK Elem. Art. Obst. p. 152.

2. The living lever; this admits of being easily guided beyond the greatest convexity of the head, and securely applied, in order that the head may, by an oblique motion, attain the wanted situation. This is a manly and grand practice; no small degree of daring will be necessary to him who contradicts. Even although this noble essay may prove successful, it is not likely to be injurious in any great degree. Turning is then unquestionably indicated.

Turning, with all its risks, seems to be unavoidable in cases of excessive *flooding* and *convulsion*, unless the progress admit of delivery speedily by the *lever* or *forceps*. Even although there be neither dilatation nor pains, when flooding is violent, and not to be checked by other methods, this plan of delivery is to be executed by *necessary*, but *cautious force*, as in the case of *rigidity* already adverted to.

Delivering the Placenta.

As already mentioned, the delivery of the placenta is for the most part spontaneously completed by the proceeding operation of the expelling muscles and contracting uterus. Much mischief has followed premature and rash attempts to extract it. The very dangerous affection, inversion of the uterus, seems only capable to be produced by this rude conduct.

When the placental mass, however, is uncommonly detained (*deutèria*), and especially if any flooding be present, extraction becomes necessary. For this purpose, gentle drawing by the cord in a just direction is always to be premised to greater exertion, and the introduction of the hand into the vagina and uterus, as for turning. When this conduct becomes necessary, especially if the cord has been broken by previous drawing,

drawing, attention is wanted to distinguish the placenta, to disengage it gently, and catch it properly. It would seem to be detained, either in consequence of universal adhesion to the uterus, or contraction of this organ.

A. Plurality of Children.

A plurality of children, two or more at one time, is an occurrence that does not produce much embarrassment to the practitioner: Each one is delivered as if solitary. No attempt must be made to deliver the placentas till all the children are born, because these masses sometimes cohere; and, on account of the possibility of anastomosis, the portions of the umbilical cords connected with them must be tied, to prevent hæmorrhage.

If two sets of membranes should burst at one time, and the children be preternaturally situated, a limb of each may be presented at once. Detection of the circumstances in this case, which is likely to occur very seldom, is easily made by careful *touching* *.

The

* Rebecca conceived, and the children struggled within her. And the LORD said unto her, Two nations are in thy womb, and two manner of people shall be separated from thy bowels. And when her days to be delivered were fulfilled, behold, there were twins in her womb; and the first came out red all over, like an hairy garment, and they called his name *Esau*; and after that came his brother out, and his hand took hold on *Esau's heel*, and his name was called *Jacob*. Genesis, chap. xxv. ver. 22.

And it came to pass in the time of her (*Tamar*) travail, that, behold, twins were in her womb. And it came to pass, when she travailed, that the one put out his hand; and the midwife took and bound upon his hand a scarlet thread, saying, This came out first. And it came to pass, as he drew back his hand, that, behold, his brother came out; and she said, How hast thou broken forth; this breach

The Puerperal Pathology, extensively viewed, comprehends many diseases, which may be considered in the following order.

I. Those peculiar to women, and not connected with pregnancy.

II. Those which occur during pregnancy.

III. Those that happen during parturition.

IV. Those that take place soon after parturition.

V. Those that affect the child newly born, or soon afterwards.

I. Diseases peculiar to Women, and not connected with Pregnancy.

1. Irregular menstruation.
2. Fluor albus.
3. Furor uterinus.
4. Hysteria.
5. Deformed hymen and vagina.
6. Polypus in the vagina.
7. Cancer of the uterus.
8. Hernia.
9. Prolapsus uteri.

1. Irregular Menstruation.

Under this appellation *irregular menstruation* are comprehended,

- | | |
|--------------|-----------------|
| 1. Deficient | } Menstruation. |
| 2. Excessive | |

Deficient

breach be upon thee. And afterward came out his brother, that had the scarlet thread upon his hand. Chap. xxxviii. ver. 27.

Deficient Menstruation.

The symptoms principally marking *deficiency* of the menstrual discharge, are,

1. Lassitude and debility,
2. Vitiating appetite,
3. Palid chlorotic colour,
4. Oedematous swelling,
5. Pains in the back and loins,
6. Hæmorrhage from the nose, lungs, &c. especially when the menses have disappeared.

Causes.

This disease is perhaps never *original*; it is *symptomatic* of some preceding affection, which therefore is *its cause*. It may be,

1. Mal-formation of the uterine or menstrual vessels;
2. Obstruction of the os internum or os externum uteri;
3. Inanition, produced by any preceding affection.

Suppression of the menses may proceed from pregnancy.

Cure.

The disease created by the first cause, is in its nature incurable; but as this is of difficult detection, a *prudent* application of the usual remedies may be made, unless the circumstances be exceedingly suspicious.

The affection depending on the second cause, is obviated by surgical means; they have been specified.

Resulting from the third cause, the treatment must be adapted accordingly.

It may be questioned if there be in nature any substances justly entitled to the appellation of *emmenagogues*, or capable to excite the menses. The following are reckoned to be such :

Sabina,

Melampodium,

Aloe,

Cantharides, &c.

The practice is always to be directed against the original disease.

Inanition, not dependent on *local disease*, may be removed by,

1. Diet of a nutritious quality, which may be of the animal kind, and the farinaceous grains ;

2. Wine administered by itself, or joined with other substances.

The effect of diet is much promoted by,

3. Air ;

4. Exercise, such as walking, riding, friction ;

5. Tonics, such as,

Peruvian bark,

Preparations of steel,

Cold bath, sea-bathing.

The inanition obviated, the menses are generally soon established.

The disease in question occurring in the vigorous and plethoric subject, which rarely happens, we may use,

1. Cathartics, such as *aloe* ;

2. Blood-letting ;

3. Emetics.

Does *compression of the femoral arteries* act as an emmenagogue?

Is the *local* application of *stimulants*, or other substances, likely to be useful; such as,

1. Heat, in the form of the tepid bath;
2. Electricity.

Is *marriage* a sovereign remedy?

The practitioner, in treating this affection, ought not to be *too busy*. Time is productive of changes the most salutary, which are often unjustly ascribed to particular medicines which happened to be employed.

Excessive Menstruation.

The menstrual discharge may be considered as *excessive*, when it recurs at shorter intervals, or continues to flow longer, than is usual in health. It is called *menorrhagia* *.

A considerable latitude, consistent with health, takes place with respect to the quantity as well as periods of the menstrual flux.

An excessive menstrual flow, participates of the nature of hæmorrhage, producing the same effects on the system.

1. Weakness,
2. Paleness,
3. Pain of the back,
4. Oedematous swelling.

Causes.

Menorrhagia may be induced by the same causes, or depend on the same states, as hæmorrhage; and, like it, this affection may be *active* or *passive*.

H

It

* Elements of Physic and Surgery.

It appears, that menorrhagia is most frequently of the active sort; because it oftenest happens in the strong and plethoric. It soon becomes *passive*.

Cure.

Active menorrhagia is cured, or alleviated, by

1. Blood-letting;
2. Abstinence from food, especially from the stimulant and nutritious kinds;
3. Rest in the horizontal posture;
4. Anodynes, particularly *opium*, when any irritation is supposed to be present, likewise locally;
5. Tepid water or milk injected into the vagina in certain circumstances.

Passive menorrhagia, supposed to originate from weakness, may be counteracted by

1. Diet, nutritious, and somewhat stimulant or cordial;
2. Rest in the lying attitude;
3. Tonics;

Peruvian bark,

Vitriolic acid,

Cold. This may be locally applied through the medium of water, by way of injection. *Ice* has been introduced into the uterus with advantage*. *Stimulant* and *saline* substances are likely to prove dangerous when thus applied †.

4. Anodynes. *Opium* in tincture is generally the best form;

5. Exercise

* Dr LEAK's Treatise on the Diseases of Women.

† Dr SMELLIE recommends such.

5. Exercise of the passive kind during reconvalence, as riding in a carriage, on horseback, sailing, &c. With these may be conjoined,

6. Cold-bath ;

7. Steel mineral waters.

May not a fatal degree of menorrhæge, in all cases, be prevented by *compression on the os externum*?

2. *Fluor Albus.*

Fluor albus, or *Leucorrhœa*, is a flux of whitish matter from the vagina *.

This discharge is thought to be connected with *passive* menorrhagia, or to be an effusion from the same vessels †.

Is it a glandular effusion?

Diagnostic.

It may be confounded with *gonorrhœa virulenta*, and with a *purulent discharge* from the vagina. Pain and ardor urinæ attend the former, and inflammation precedes the latter. Information may be collected by touching.

Cure.

The general remedies of *fluor albus* are the same with those of the *passive* menorrhagia. The *topical ones*, which may be applied as injections, are,

1. Infusion of *Peruvian bark*,
2. ——— *oak bark*,
3. ——— *red rose leaves*,
4. ——— *green tea*,

5. *Red*

* Elements of Physic and Surgery.

† Dr CULLEN's First Lines of the Practice of Physic.

5. *Red wine.* Claret is perhaps the fittest kind,

6. *Lime water,*

7. *Cold water, milk, oil, &c.*

The *bag-and-pipe* is the best injecting apparatus. The pipe may be proportioned to the parts *. The application is made by the patient herself; and part of the fluid may be retained for some time by the position of her body.

3. *Furor Uterinus.*

Furor uterinus is an itching sensation about the os externum, often so great as to produce evident lasciviousness. The urethra, and probably the clitoris, are principally affected. An alteration of the glands may conduce to excite this distress.

Some suppose this disease to participate of the nature of fluor albus, or to be dependent on it.

Cure.

As far as this disease is supposed to depend on fluor albus, or other previous states, they must be first removed.

The general remedies are,

1. Tepid bath,

2. Anodynes.

The local ones are,

1. Bathing,

2. Poulticing,

3. Anodynes.

4. *Hysteria.*

* Dr SCHWADTAR very obligingly favoured me with a model of a very good one.

4. *Hysteria*.*Definition.*

Hysteria, or the hysterical affection, is a convulsion, sometimes tonic, oftener clonic, resembling epilepsy, attended with flatulence, a sense of a suffocating ball, (*globus hystericus*); not seldom with unconsciousness, and involuntary discharge of urine *.

This disease may be considered as,

1. Acute,
2. Chronic.

Acute hysteria appears in the young and sanguine; the convulsions are strong and general; its attack is sudden, and does not last long.

In the *chronic* kind, the convulsive symptoms are less general, more gradual in accession, and protracted.

Both kinds have been supposed to depend on a particular state of the *uterine* system. This circumstance has given name to the affection.

Acute Hysteria.

Acute hysteria attacks the young and robust; the convulsion is strong, and difficultly distinguished from epilepsy. It is sometimes tonic, so that the body may be raised as if it had no articulations; and even in the intervals of the fits, the patient is often unconscious.

Causes.

Strong passion, or violent emotion of the mind, such as results from *disappointed love*, is the most frequent exciting cause of acute hysteria.

The proximate cause seems to be a condition of the nerves giving morbid sensibility: Some have supposed
this

* Elements of Physic and Surgery.

this peculiarly to be prevalent in the genitals, and to give falacity.

Cure.

The indications of cure are,

1. Removal of causes ;
2. Alleviation of symptoms.

First Indication.

The removal of the exciting causes is a matter of obvious importance : The passions are to be calmed, and every soothing suggestion offered.

Second Indication.

The alleviation of symptoms, of which convulsion is the chief, is obtained by,

1. Blood-letting,
2. Cathartics,
3. Tepid bath, }
4. Anodynes, } generally and locally.

These remedies strike at the whole of the symptoms so much, that further remarks become unnecessary.

Chronic Hysteria.

The *chronic* hysteria is the most common kind. It is chiefly marked by,

1. Globus hystericus, or a convulsion of the alimentary canal, particularly of the gullet ;
2. Clavus hystericus, or an acute pain in the head ;
3. Borborygmi, or motions of the intestines, sometimes audible ;
4. Flatulence, producing belching, &c. ;
5. Palpitation ;
6. Yawning ;
7. Laughing ;

7. Laughing ;
8. Costiveness.

This kind of the disease is commonly met with in the asthenic or relaxed state, particularly in the older individuals.

Cure.

Seldom under the second indication are evacuations, especially of blood, admissible. The chief reliance is in,

1. Tonics, as *Peruvian bark*, &c. ;
2. Stimulants, especially of the volatile and foetid kind, as *ether*, *spiritus volatilis aromaticus*, *tinct. foetida*, *musk*, &c. commonly denominated *antihysterics* ;
3. Eccoprotics, or gentle laxatives, as *soluble tartar*, *aloe*, *magnesia*, &c. ;
4. Anodynes ;
5. Diet of a nutritious quality, and not flatulent ;
6. Exercise, especially that which is passive ;
7. Mineral waters, particularly of the iron kind ;
8. Cold bath.

If hysteria shall appear to be *symptomatic*, the practice is to be regulated according to the prime affection.

5. *Deformity of the Hymen and Vagina.*

Deformity of the *hymen* may be such, as to render the vagina *impervious*, or the opening in both may be *uncommonly narrow*. This state of these parts is productive of considerable inconvenience, when *puberty* approaches.

Cure.

Mechanical dilatation is indicated according to degree, by

1. The

1. The knife ;
2. Bougie ;
3. Sponge-tent.

6. *Polypus in the Vagina.*

Polypous tumour is almost entirely incidental to the more aged. It sometimes acquires great size *. This is discovered by,

1. Pain ;
2. Hæmorrhage ;
3. Suppression of urine and stools ;
4. Touching and inspection.

It ought to be carefully distinguished from prolapsus uteri.

Cure.

As *flesh-tumour* †, and consequently polypus, never disappears spontaneously, but increasing, *indurating*, and becoming *inflamed*, produces *cancer*, extirpation is the cure : It has been already mentioned ‡.

7. *Cancer of the Uterus.*

Cancer, or *cancerous ulcer*, is always preceded by scirrhusity or induration, which probably arises from a loss of the vascular organization, consistent however with a degree of circulation and life.

Inflamed scirrhus is *occult cancer* ; effusion taking place, it is *open cancer* : the matter thus produced is highly acrid.

The specific circumstances of cancer arise from the *state of the parts*, viz. scirrhusity, and not from any diversity in the nature of the inflammation.

Diagnostic.

* Elements of Physic and Surgery, vol. ii.

† Elements of Physic and Surgery, vol. ii.

‡ Page 38.

Diagnostic.

The symptoms of scirrhus are,

1. Peculiar hardness ;
2. Situation, being generally in glandular parts ;
3. Slow progress ;
4. Want of pain.

Cancer is marked by,

1. Acute pain ;
2. Ragged and abrupt circumference ;
3. Peculiar fœtor or smell ;
4. Sudden destruction or erosion of the solid parts.

Cancer of the uterus is peculiarly known by,

1. Pain about the hypogastric region and pubes ;
2. Acrid and fœtid discharge ;
3. Hardness, and even the ulcer itself felt by touching.

The cancerous ulcer is carefully to be distinguished from the venereal one.

Cure.

Early amputation of the whole of the parts affected by the cancer, experience shews, to be the *only* method of cure ; indeed this should be done during the scirrhus state.

Cicuta, arsenic, &c. are ineffectual against cancer.

As amputation of the womb is impracticable, cancer there admits only of palliation, to be procured by,

I. General remedies.

1. Diet mild and nourishing ;
2. Tonics, as *Peruvian bark* ;
3. Anodynes.

II. Topical ones.

1. Soft dressing carefully introduced, such as *fine lint* ;

2. Mild injections into the vagina ;
3. Anodynes likewise injected.

The *hectic* or *symptomatic fever* always keeping pace with the progress of cancer finally kills the patient.

Mercury may be always tried.

8. *Hernia.*

Women are peculiarly liable to the *femoral hernia*, on account of the greater length of Paupert's ligament in them than in men. The *inguinal hernia* seldom occurs, because their abdominal rings are small. This disease is extremely distressing during pregnancy and parturition.

Cure.

Palliation is at least to be obtained by reducing the parts, and supporting them by proper bandages.

9. *Prolapsus Uteri.*

Prolapsus uteri, or a *falling down of the womb*, a frequent affection, may happen as well in the unimpregnated, as gravid state. The following remarks apply to it in the former.

This disease seldom occurs before child-bearing, generally in advanced life.

Causes.

Causes are,

1. Relaxation of the solids, particularly of the ligamenta lata ;
2. Straining, especially during travail.

Diagnostic.

Diagnostic.

The disease in question is easily distinguished, by

1. Touching ;
2. Inspection, when the protension is considerable ;
3. Obstructing the passage of urine and fæces.

Cure.

When *laxity* is the cause of prolapsus uteri, attention is necessary to,

I. General remedies.

1. Diet to give vigour ;
2. Tonics, particularly the cold bath, which may be used locally : Also injections of

II. Topical ones.

1. *Oak bark*,
2. *Peruvian bark*,
3. *Allum*,

} dissolved and injected.

All these remedies will produce small effect, unless the organ be *replaced* and *retained*.

Replacing is easily effected, by gentle pressure with the hand during the reclined posture.

Retention is procured by bandages chiefly, to which the use of the instruments named *peffaries*, must be added.

The pessary which gives the least irritation, and is capable of being compressed into small volume, while it is introduced or retired, and at the same time gives full support to the uterus, is to be preferred. The *air-peffary* seems to possess these qualities *.

A

* The air-peffary which I have invented, is formed of a small bladder or bag, soft and air-tight, with a valve at the orifice. It is introduced and then duly inflated by the patient, by a small and long flexible pipe, which is immediately retired. This instrument, while it is exceedingly light, fully occupies the vagina, and supports perfectly the uterus. When it is wished to retire it, the valve is forced, and immediately it collapses.

A compress dipt in oil, applied over the os externum, and supported by the T. bandage, is exceedingly useful, when proper pessaries cannot be procured.

II. *Diseases which occur during Pregnancy.*

1. Dyspepsia ;
2. Costiveness ;
3. Ischuria ;
4. Retroversio uteri ;
5. Abortion ;
6. Lues venerea ;
7. Oedema.

1. *Dyspepsia.*

Dyspepsia, or *indigestion*, occurs early in pregnancy, it is marked by,

1. Loss of appetite for food ;
2. Nausea ;
3. Vomiting ;
4. Flatulence ;
5. Emaciation.

These symptoms seem to be caused by the distension of the uterus, affecting the digestive organs by sympathy, and perhaps partly by the menses being retained.

Cure.

Little alleviation of this affection can reasonably be expected while the cause continues ; some, however, may be attained by,

1. Animal food in small quantities ;
2. Gentle exercise ;
3. Cheerful situation.

2. *Costiveness.*

2. *Costiveness.*

Costiveness is generally prevalent, especially towards the last months of pregnancy : Partly resulting from the distended uterus.

Cure.

Costiveness is best counteracted by,

1. Diet, which may partly consist of ripe fruit ;
2. Exercise, especially in a carriage ;
3. Eccoprotics, such as *aloetics, soluble tartar, magnesia*, &c. repeated occasionally.

3. *Ischuria.*

Ischuria vesicalis, or *suppression of the excretion of the urine*, is here meant. This painful affection is mechanically induced by the *pressure* of the uterus, when it rises towards the brim of the pelvis. The disease, therefore, happens ofteneft about the third month of pregnancy.

Cure.

The discharge of the urine is procured by,

1. Alteration of posture ;
2. The catheter.

4. *Retroversio Uteri.*

Retroversion is a *falling back* of the fundus uteri into the cavity of the os sacrum, so that the os internum rises proportionally to the interior surface of the ossa pubis. It occurs about the fourth month of pregnancy*.

Symptoms.

* London Medical Transactions.
Systematic Elements of Surgery.

Symptoms.

1. Pain about the uterine region ;
2. Sicknefs at ftomach, and often vomiting ;
3. Suppreffion of the urine and fæces ;
4. Tumour above the offa pubis ;
5. Tenefmus ;
6. Alteration perceived by touching ;
7. Symptomatic fever, when the impaction is great.

Cure.

This affection requires,

1. Reduction, } of the uterus.
2. Retention, }

1. Reduction.

Previous to any attempt to replace the uterus, which ought to be as soon as poffible, the bladder and the rectum muft be emptied by the catheter and injections.

In order to effect reduction, the patient refts on her knees and elbows, while the Surgeon attempts to raife the fundus uteri by his fingers in the rectum and vagina. Much affiftance may be obtained by the living lever, fo ufed as to draw the os internum downwards. Perhaps an inftrument on the fame principle might be contrived to be employed in the rectum to the like purpofe. Should thefe expedients fail, then,

1. The fize of the uterus may be diminifhed by difcharging the liquor amnii, either by puncture, or the catheter introduced through the os internum. This, in fact, a kind of embryotomy.

2. Pelvitomy, or the Sigaultian operation *, may be performed. This plan is calculated to fave both mother and

* Page 41.

and child, and is suggested by Dr PURCEL*. It is surprising, that Dr *Hunter* and others had not adverted to its propriety during life, because they found, after death, that the impacted uterus could not otherwise be retired from the pelvis †.

Retention.

Retention is easy : Rest and the lying posture favour it. The more difficult the reduction, the easier the retention.

5. *Abortion.*

Abortion, miscarriage, or premature birth, consists in a separation of the placenta and chorion from the uterus, or in the disease and death of the child.

Symptoms.

The approach of abortion is known by,

1. Pain in the loins, or region of the os sacrum ;
2. Tenesmus concurring with the pain, and both returning at intervals ;
3. Hæmorrhage from the os externum, (vulgarly called flooding) ;
4. Sicknefs, and sometimes a degree of fever.

Causes.

In general, on the part of the mother, abortion is caused by,

1. Violent agitation ;
2. Passion ;
3. Stimulant

* Medical Commentaries.

† Mr WILMER's Cases ; in which an instance of this affection, fatally mistaken, is narrated.

3. Stimulant food ;
4. Disease, particularly fever.

These causes would seem to act by increasing the circulation of the blood in the uterine vessels.

The more advanced the pregnancy, the more dangerous the abortion, as great hæmorrhage arises from the dilated state of the vessels.

Cure.

Three indications of cure may be mentioned.

1. The removal of occasional causes ;
2. Diminishing the force of the circulation ;
3. Promoting the expulsion of the child, when abortion is unavoidable.

First Indication.

The first indication is fulfilled by avoiding motion, passion, &c.

Second Indication.

The second indication is answered by,

1. Bleeding, which ought to be early and plentiful ;
2. Rest in the recumbent posture ;
3. Coolness ;
4. Mild injections removing any collections of fæces ;
5. Anodynes liberally used.

Third Indication.

The third indication is only to be followed out, when it appears from the increase of the pains and flooding, that the abortion cannot be prevented.

Manual assistance is almost inadmissible in miscarriage previous to the third or fourth month, but may be afforded afterwards. The placenta, when causing hæmorrhage

hæmorrhage from its being retained in the os internum, may be extracted by,

1. The fingers;
2. The placenta-forceps.

6. *Lues Venerea.*

Gonorrhœa virulenta, or *venereal running*, occurring in the time of pregnancy, may be cured by suitable injections, or proper local applications.

Syphilis, or general venereal taint, requires, in every subject, and at all times, the use of mercury; occurring along with pregnancy, its progress at least may be safely checked by the mercurial pill of the Edinburgh Dispensatory: This mild preparation is to be given in small doses. The cure to be completed after delivery.

Oedema.

Oedema signifies a colourless pasty thickness or swelling of the whole or a portion of the soft parts. It is found to be caused by serosity in the fatty cells, and is therefore dropsy.

Oedematous swelling connected with pregnancy, for the most part, appears on the feet and legs towards the last months.

Causes.

The gravid uterus impeding the return of the fluids from the lower extremities, may be justly regarded as the principal cause of puerperal œdema.

Cure.

Alleviation only of the affection in question is to be expected, till parturition takes place. For this purpose,

pose, the recumbent posture is likely to be highly useful *.

III. *Diseases which occur during Parturition.*

The diseases taking place during the progress of parturition are,

1. Convulsion ;
2. Flooding ;
3. Rupture of the uterus ;
4. Laceration of the perinæum.

I. *Convulsion.*

Puerperal *convulsion* seems to be of the epileptic kind: The fits are frequent, and very violent; and, even during the intervals, the patient is insensible. It, for the most part, takes place after the labour is considerably advanced.

Causes.

Convulsion is often caused by irritation. The puerperal kind of it is very probably induced by the distension of the os internum concurring with the peculiar sensibility of the system at large.

Cure.

The irritation causing convulsion in the puerperal condition, is removed by promoting delivery by the means already stated.

Alleviation

* Mr WHITE of Manchester has lately published his opinions on this disease. I flatter myself, the publication is worthy of a Gentleman so eminent in his profession. I have not had the pleasure of seeing it.

Alleviation in the mean time is acquired by,

1. Blood-letting,
 2. Anodynes,
 3. Tepid bath,
- } generally and locally.

When the delivery is completed, the disease, for the most part, speedily disappears.

2. *Flooding.*

Uterine hæmorrhage, or flooding, is one of the most dangerous diseases of the child-bed state. It often suddenly produces death.

Causes.

This hæmorrhage seems to be entirely of the nature of that which attends abortion, and is caused by the same circumstances. When the placenta adheres to the circumference of the os internum, it is a necessary consequence of its beginning distension.

Cure.

The cure of this hæmorrhage entirely depends upon delivery, which allows the uterus, and consequently the vessels, to contract. It is therefore fortunate when the dilatation is such as to admit of manual assistance; when it is not so, the necessary dilatation is to be procured by adequate force, and the delivery completed by turning or otherwise. Meantime all exertion on the part of the patient is as much as may be to be avoided.

Although this flooding should occur before the full time of birth, and no pains, the above practice is to be adopted.

3. *Rupture*

3. *Rupture of the Uterus.*

Burbling or *rupture* of the womb, is happily rare. It is known by,

1. The sudden ceasing of the pains ;
2. Alteration felt by the hand internally or externally ;
3. Fainting, or sinking of the pulse.

Causes.

This rupture or wound is caused by extreme and partial distension, from some part of the child's body projecting uncommonly, joined perhaps with original delicacy of the organ.

Cure.

This disease is often fatal. When the child falls through the wound, the Cæsarcan operation may be warrantably performed. If the escape of the child be partial, and the delivery practicable, as soon as possible it is to be completed : The treatment suited to wound with hæmorrhage is then indicated.

4. *Laceration of the Perinæum.*

Laceration of the perinæum seldom happens, unless from an improper management of the forceps, or such instrument.

Cure.

Concretion of the lacerated perinæum is procured by those means which favour the healing of wound. Suture is never admissible. Costive stools, which disturb the cicatrization, are avoided by,

1. Eccoprotics ;
2. Laxative injections.

IV. *Diseases*

IV. *Diseases arising soon after Parturition.*

The following are the chief diseases which occur during the child-bed state, and soon after delivery.

1. Inversio uteri ;
2. Lochiorrhœa ;
3. Ischuria ;
4. Inflammation,
Hysteritis,
Peritonitis,
Cystitis,
Mastodynia,
Rhagas papillæ ;
5. Puerperal fever ;
6. Milk fever ;
7. Mania ;
8. Hemiplegia.

1. *Inversio Uteri.*

Inversio uteri, or *inversion of the womb*, is really a prolapsus, which only can take place immediately after delivery, before the organ has been duly contracted. It appears in the form of a large pendulous bag, from which there is great discharge of blood, often fatal from mere quantity.

Cause.

Inversion is perhaps only to be produced by premature and rash attempts to extract the placenta.

Cure.

The cure consists in,

1. Reposition ;
2. Retention.

The

The *replacing* of the organ ought to be immediately effected by pressure with the hand in a proper direction, so as at the same time to restore the proper cavity. The os externum being meanwhile as much distended as may be by an assistant, contributes to the success*.

The contraction of the uterus properly replaced, secures *retention*.

2. *Lochiorrhœa*.

Lochiorrhœa, or *excessive discharge of blood* after delivery, arises from want of contraction of the uterus, while its vessels are much dilated. This hæmorrhage, necessarily of the passive kind, is always dangerous, and frequently fatal.

Cure.

The cure of lochiorrhœa must depend on the same principles with that of flooding. Particular reliance may be placed on,

1. Anodynes, especially when irritation is suspected;
2. Cold locally applied; cold water may be injected by the vagina, or into the rectum, or both;
3. Compression, procured by,
 1. Bandage and compress over the os externum, so as to intercept the blood, and cause it mechanically oppose farther discharge;
 2. The hand applied over the hypogastrium, so as to favour the contraction of the uterus.

The

* By observing these rules, I reduced an inverted uterus, after the attempts of Dr *David Spence* had been fruitless. The loss of blood had already been so great, that the patient soon died.

The use of the preparations of *lead*, if not a dangerous, is at least a suspicious practice.

3. *Ischuria.*

Ischuria vesicalis, or *stoppage of discharge of urine from the bladder*, arising after delivery, is the effect of violence, and consequent inflammation.

Cure.

The complete cure depends on the use of antiphlogistics; but to procure palliation or temporary relief, the catheter must in the mean time be used occasionally.

4. *Inflammation.*

Inflammation frequently occurs in the child-bed state; its chief symptoms are,

1. Pain, generally of the throbbing or pulsatory kind;
2. Swelling more or less diffused;
3. Redness variously intense;
4. Heat or increased temperature;
5. Symptomatic fever, when the inflammation is considerable.

Causes.

The occasional causes are,

1. Mechanical, or those that act in consequence of external qualities, such as form, size, &c. with impulse;
2. Chemical, or such as operate by internal decomposing qualities.

About the third day from the action of such causes, inflammation appears, and its symptoms are noticed
nearly

nearly in the above order, and the local affection always precedes any general commotion.

Proximate Cause.

The enumerated symptoms may be traced to an *alteration of structure* induced by the occasional causes, as to a source.

Cure.

Two indications regulate the cure, or the use of antiphlogistics :

1. Removal of causes ;
2. Alleviation.

First Indication.

The occasional causes have in general acted before the inflammation appears ; but these, if they continue to act, must be removed as much as possible.

Second Indication.

The symptoms are alleviated by antiphlogistics, which are,

1. General ;
2. Topical.

The general ones are,

1. Blood-letting ;
2. Purging ;
3. Fasting ;
4. Coolness ;
5. Dilution ;
6. Anodynes ;
7. Tepid bath.

The

The topical are,

1. Blood-letting by leeches, &c.;
2. Tepid bath, poultice, fomentation, &c.;
3. Anodynes, *opium* blended with the poultice, or dissolved in oil, (ol. anodynum).

The application of these remedies ought obviously to be regulated by the habit of the patient, and degree of the disease; and the earlier they are called into use, the more likely to be successful.

Terminations.

The terminations of inflammation are,

1. Discussion;
2. Suppuration;
3. Mortification.

The first, if possible, is always to be procured, especially in puerperal cases.

It is probable, that a tendency to inflammation constantly precedes *shivering*, (commonly called *weed*), and that discussion has taken place when this disappears soon, without the other circumstances of fever supervening.

Hysteritis.

Hysteritis, or *inflammation of the womb*, is not met with so frequently as might be expected from the great exposure of this organ to the mechanical causes.

The special symptoms are,

1. Stoppage of the lochia;
2. Pain in the hypogastrium;
3. Hardness or tumour;
4. Heat.

The two last are discovered by touching.

Cure.

Discussion of hysteritis is always to be anxiously attempted ; the tepid bath and anodynes may be locally applied. It is a great misfortune when suppuration ensues, because, independently of the chance of ulcer of difficult cure, the organ is likely to be disqualified for future impregnation.

Peritonitis.

Peritonitis, or inflammation of the *peritonæum*, and of the parts it invests, is a frequent puerperal affection.

Symptoms.

1. Abdominal tumour ;
2. Pain increased by pressure and motion ;
3. Hardness, especially when the muscular portion of the membrane is affected.

Cure.

The tepid bath may be used externally, and internally in the form of *clyster*.

Purging is a doubtful practice, when the intestinal portion is affected.

Anodynes are applicable externally, and internally 60 or 80 drops of *laudanum* may be blended with about eight ounces of tepid mucilage or milk for an injection.

There is much reason to think this disease has been often mistaken for puerperal fever.

Cystitis.

Cystitis, or inflammation of the bladder of urine, excited by the pressure of the child, or the undexterous use of instruments, is marked by,

1. Pain

1. Pain about the pubes ;
2. Dysuria, or frequent desire to void the urine, with pain and pressure ;
3. Tenesmus of the rectum.

Cure.

The situation of the organ affected is favourable to admit of the local use of tepid bath, anodyne solution, mucilaginous or oily matters, by injection.

Mastodynia.

Mastodynia, or *inflammation of the mamma or milk-glands*, is a frequent affection, much connected with the secretion and excretion of the milk as occasional causes : For the most part it runs on to suppuration.

Cure.

The utmost exertion ought to be made by the antiphlogistics, early applied to prevent suppuration, because a destruction of a part or the whole of the glands is the consequence. As soon as suppuration is discovered, the pus is to be discharged by a proper incision, in order to limit its effects on the neighbouring glands.

Rhagas Papillæ.

Rhagas papillæ, or *chapped nipple*, is the effect of the irritation of sucking and moisture frequently applied.

Cure.

A degree of inflammation is always present, therefore the topical antiphlogistics, especially *poultice*, is useful. It continues long, because the occasional causes cannot be avoided. A *liniment*, consisting of
fine

fine oil, spermaceti and wax, is a useful protecting application.

5. *Puerperal Fever.*

The nature and cure of fever in general may be first adverted to, and thereafter those of the puerperal fever.

Fever is a morbid affection of all the functions and states, but chiefly the following :

1. Circulation ;
2. Respiration ;
3. Temperature ;
4. Sensibility ;
5. Reasoning ;
6. Sleeping ;
7. Secreting ;
8. Excreting.

The commencement of these alterations is very constantly attended with trembling, or a sense of coldness ; and when they continue long, more or less tendency to the putrid state is perceived *.

Fever is,

1. Idiopathic ;
2. Symptomatic.

Idiopathic fever is,

1. Continued ;
2. Intermittent ;
3. Remittent.

These distinctions are important, because they influence the cure.

'Tis much to be feared, that symptomatic has been often mistaken for idiopathic fever, especially during the child-bed state ; the following remarks are chiefly applicable to the idiopathic kind.

Causes.

* Elements of Physic and Surgery, vol. i. p. 167.

Causes.

It is pretty generally admitted, that the occasional cause of fever of the idiopathic and continued kind, is a *poisonous matter* affecting the sentient parts. It is probable, however, that this disease may be produced by other causes, such as, *excess of heat, cold, moisture, &c.*

This poison, or other occasional cause, applied in proper circumstances after child-bearing, will necessarily give rise to idiopathic puerperal fever. But it is probable, that this very rarely happens; and that Authors have often regarded fever *symptomatic* of inflammation, &c. as puerperal fever strictly so called: It is never likely to become epidemic.

Fever is modified according to the constitution of the patient. When this is sanguine, and the symptoms are strongly marked, the affection is named *inflammatory fever*, although no inflammation exist in the system. When the patient's habit has opposite characters, the fever is named *typhous*, or *nervous*.

Inflammatory and nervous fever thus appear to be only accidental modifications, the nervous system being perhaps equally the seat of both. When protracted, there is also a putrescent tendency, which is often to be regarded as the creature of the fever.

The putrescent tendency is marked by,

1. Fætor, such as that of putrid substances;
2. Black fætid stools and urine;
3. Blackness of the mouth;
4. Passive hæmorrhage;
5. Loose crasis of the blood;
6. Spots and vibices of the petechial kind;
7. Extreme debility.

Although

Although putrescency may take place in every fever, it is alleged to be most frequently connected with the nervous kind, and may happen peculiarly in the puerperal one, which some Authors have regarded as always inflammatory, and others as putrid : But histories and dissections shew, that it is sometimes the one, and sometimes the other ; and that therefore no one plan of cure is universally to be adopted.

Puerperal fever generally appears within a few days after inlying ; and its duration and progress are various, the former often extending to ten, twelve, or sixteen days.

Cure.

It is obvious, that the medical treatment of puerperal fever ought to correspond to its tendency.

The inflammatory tendency requires antiphlogistics, particularly,

1. Blood-letting ;
2. Cathartics, especially saline ones ;
3. Dilution ;
4. Coolness.

The putrid tendency plainly demands antiseptics in due quantity : The dietetic ones, or those in the style of food, are the most powerful.

1. Farinaceous substances in every form, as panada, &c.

2. Infusions of fresh animal substances, in small quantity, from time to time, (beef-tea, &c.).

3. Vinous liquors of all kinds *.

4. Peruvian

* *Koumiss*, a vinous liquor prepared by the Tartars from mares milk, is likely to prove very salutary during the putrid tendency. A dissertation on this singular production, by Dr GRIEVE, Physician in Moscow, is given in to the Royal Society of this city.

4. Peruvian bark.

5. Acids*.

6. Opium in such quantity as may be sufficient to diminish the sensibility and motion depending on it, which seem to be very instrumental in producing the putrid state.

7. Cathartics of the mildest kind; also injections, to prevent any hurtful collection of putrid matter in the intestines.

8. Cleanliness, this is peculiarly proper.

When this fever does not shew either of these tendencies, a middle course of treatment is indicated; perhaps a small bleeding and gentle purge in the beginning may always be serviceable.

A local affection or inflammation is to be treated as such.

6. *Milk Fever.*

Milk fever is always symptomatic of the change of the milk glands, to which there is a remarkable determination about the third day after parturition, which often produces real inflammation.

Cure.

The cure consists in carefully sucking or drawing off the milk, which unquestionably much distends and afflicts the excretory ducts, ASTRUC and others have supposed

* Dr GRIEVE informed me, that he prescribed a very liberal use of vinegar, during a putrid fever which prevailed upon the borders of Russia, with the greatest advantage. The mode was, drenching cloths in it, and applying them very generally to the surface. He imputed his success chiefly to the coolness arising from its temperature, in the first instance, and from its evaporation, afterwards.

posed it to be carried to other parts of the body by metastasis. Blood-letting and poulticing are antiphlogistics especially indicated.

7. *Mania.*

Mania, or *madness*, occurring after child-bearing, may be called puerperal. When flowing from inflammation of the brain, it is very dangerous; when from other causes, it generally ends happily.

Causes.

It is difficult to point out the causes of idiopathic puerperal mania: may we regard as such, any changes which the abdominal organs suddenly undergo, or the absorption of matter from the uterine passages?

Cure.

Phrenitic mania is to be treated as inflammation of the brain; the bleeding ought to be plentiful and early.

Mania, not phrenitic, may likewise require antiphlogistics, according to the habit of the patient; and, in every case, purging by neutral salts seems proper. *Soluble tartar* has obtained a preference.

8. *Hemiplegia.*

Hemiplegia, which is of the nature of apoplexy, is by some reckoned a child-bed disease. It is uncommon.

Cure.

This affection requires to be treated as apoplexy, regard being had to circumstances.

V. *Diseases of the new-born Child, or occurring soon after Birth, principally are:*

1. Stillness;
2. Thrush;
3. Jaundice;
4. Rash;
5. Purging;
6. Fever;
7. Tongue-tying;
8. Harelip;
9. Cleft palate;
10. Imperforation of the anus;
11. _____ urethra;
12. _____ nose.

I. *Stillness.*

Stillness, or *asphyxia*, is a suppression of the vital functions, or a seeming privation of life:

Causes.

The child is still-born, or affected with asphyxia at birth, in consequence of injury during parturition; which may be,

1. Compression of the head, or umbilical cord;
2. Racking or straining of the neck and body.

Stillness, induced by compression of the head, partakes probably of the nature of apoplexy, and may therefore be called *apoplectic asphyxia*; arising from compression of the umbilical cord, it may perhaps be properly named *phlogistic* or *mephitic asphyxia*.

Cure.

The treatment of the still-born child, with a view to procure revival, in the eye of philanthropy, must appear a great and important object.

The apoplectic asphyxia requires,

1. Blood-letting, which may be from the umbilical vessels, or jugular veins;
2. Tepid bath.

If any *deformity* of the head be discoverable, it may be redressed by gentle pressure.

The mephitic asphyxia is exceedingly dangerous. In every view, it seems expedient,

1. To promote respiration by inflation of the lungs, and an unconstrained and exposed attitude of the head and neck;

2. To support the vital temperature by the tepid bath, warm flannel, and perhaps by tepid water injected into the stomach;

3. To apply stimulants to such degree as the case may require, *friction, vinous spirit, æther, and heat*; the last is most safely administered through the medium of water.

Asphyxia brought on by racking the neck or body, is likewise exceedingly dangerous: Relief may be expected from,

1. Blood-letting, especially if any *distension* of the vessels, or *extravasation*, be suspected;

2. Relaxed posture;

3. Tepid bath.

It is unnecessary to add, that humanity commands full perseverance in our attempts to recover from asphyxia.

2. *Thrush.*

2. *Thrush.*

The *thrush* is an *aphthous* or *ulcerous* state of the mouth, throat, and perhaps sometimes of the whole of the alimentary canal, at least it is visible about the anus. The parts principally affected, are covered with a white crust of various thickness.

The thrush makes its appearances; for the most part, a few days after birth, and seems to be preceded and accompanied with inflammation, seemingly of the diffused and superficial or erysipetalous kind. This affection is often productive of fatal effects.

Causes.

Perhaps among its occasional causes, *exposure*, and the *irritation of the food*, obtain a principal place.

Cure.

The medical treatment justly consists in,

1. Removal of causes;
2. Alleviation of symptoms. This is obtained by mild and softening applications. *Borax* seems to possess a solvent power over the crust; its effect otherwise is problematical.

3. *Jaundice.*

Jaundice, commonly called the *yellow gum*, is an early disease, and easily known by the peculiar yellow tinge of the skin, &c. It is transient, and seldom dangerous.

Causes.

Either superabundant bile, or obstruction of the ducts of this fluid, may be considered as causes.

Cure.

Cure.

Taking care to maintain a mild purging, in general, is sufficient to a cure.

4. *Rash.*

Rash, by nurses called the *red gum*, is a red efflorescence or eruption more or less extended over the skin. It seems to consist in a proportioned inflammation, at least this is present.

Causes.

Exposure, and the irritation of the dress affecting the very delicate surface, are perhaps partly causes. Some may be disposed to assign some stimulant matter in the system, at last affecting peculiarly the cutaneous glands, as an exciting circumstance.

Cure.

A mild antiphlogistic course is indicated. *Magnesia*, to keep the belly open, is useful.

5. *Purging.*

Purging, or *diarrhœa*, is a frequent infantile disease, and not a little hazardous, especially when the matter thrown off is green, and considerable in quantity, and the excretion attended with much pain.

Causes.

Imperfect digestion, arising from improper food, is a frequent cause.

Cure.

The cure principally consists in detecting and correcting the error in the diet or nursing.

Acidity

Acidity is obviously present, and hurtful. On this account, absorbents are used :

1. Alkaline salt ;
2. Magnesia ;
3. Chalk ;
4. Animal earth.

To diminish the irritation, *opium* in guarded doses is exceedingly useful, either singly or in combination with the above mentioned remedies : In general, it is indispensable.

6. Fever.

Fever is often present in the young subject ; because, on account of peculiar sensibility, it is easily excited. It is generally symptomatic.

Cause.

Irritation, often in the intestines, is the most common cause.

Cure.

In treating infantile fever, the utmost attention must be directed to obviate the irritation. For this purpose, after due evacuations have been premised, the most pleasing effects are derived from,

1. Tepid bath ;
2. Opium.

7. Tongue-tying.

Tongue-tying is a deformity of the frænum linguæ, hampering the forward motion of the tongue, and consequently preventing sucking.

Cure.

Cure.

Incision of the membrane by a small pair of scissors, the points of which are properly guarded by a silver plate, removes the deformity in fault.

8. *Harelip.*

Harelip, a deformity of the upper lip, sometimes extending to the jaw-bone and palate, is a great misfortune, because it prevents sucking.

Cure.

Rawing the edges of the gap, so as to procure contact, and healing by the first intention, as it is called, is the cure. This plan properly conducted, is likely to be fully successful in the youngest*.

9. *Cleft Palate.*

Cleft palate is a deformity or unusual communication betwixt the mouth and nose. It has the same effect on sucking as harelip, to the nature of which it much approaches: Indeed they are sometimes both present at once, and constitute one affection.

Cure.

When the deficiency is small, attempts may be justifiable to obtain concretion of the opposite points of the hole. When this is impracticable, a temporary relief may be obtained by plugging it up with *sponge*, &c.

10. *Imperforation*

* Systematic Elements of Surgery. *Harelip.*

10. *Imperforation of the Anus.*

Imperforation of the anus, or the want of an external orifice in the inferior extremity of the intestine, is an obvious deformity.

Cure.

Cautious incision is necessary. The opening may be preserved till the circumference be healed, by a little soft lint, or bougie, carefully introduced and retained.

11. *Imperforation of the Urethra.*

Imperforation of the urethra, hindering the discharge of urine, is a deformity less frequent than that of the rectum. It is not less obvious.

Cure.

The same steps of cure proposed for imperforation of the anus, are to be followed.

12. *Imperforation of the Nose.*

The *imperforation of the nose*, or the want of anterior openings, is rare. It disqualifies from sucking.

Cure.

Incision may be attempted *.

* I met with an instance in which there seemed to be a total want of the cavity of the nose. The incision was therefore impracticable.



